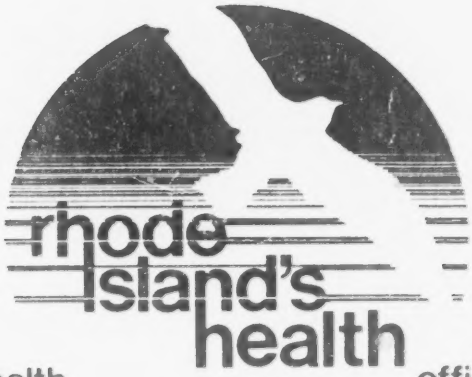
S6995 -2 A




rhode island department of health

office of data evaluation

# 1981

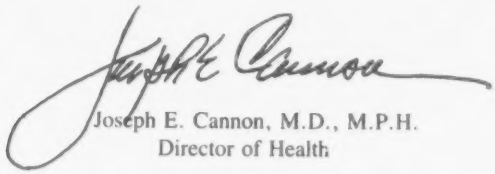
**TO**

**THE HONORABLE J. JOSEPH GARRAHY, GOVERNOR**

**AND**

**MEMBERS OF THE GENERAL ASSEMBLY**

As required by Section 42-62-22 of the General Laws of 1956, as amended, I submit the sixth annual report on the health conditions and health expenditures of the people of the State. The report, *Rhode Island's Health, 1981* , was produced from Rhode Island's comprehensive health data base. This data base continues to grow and develop with the cooperation of both public and private agencies and is organized and maintained by the efforts of the Rhode Island Department of Health with the assistance of Rhode Island Health Services Research, Inc. (SEARCH). The Department of Health expresses appreciation to the individuals and institutions which provided data that appear in this report.



Joseph E. Cannon, M.D., M.P.H.
Director of Health

# CONTENTS


Contents ii
List of Tables iii
List of Graphics iv
Introduction v


## DEMOGRAPHICS


How is our population growing? 1

How long can we expect to live? 3

Have birth rates for women of different ages changed? 5

Have the leading causes of death changed? 7

How does our motor vehicle death rate compare to that of the U.S.? 9


## HEALTH STATUS


Who are the smokers? 11

What is the age factor in chonic conditions? 13

Do we use preventive medical care measures adequately? 15

Do we exercise enough to achieve and maintain fitness? 17

Is the compostion of our diet improving? 19

Are we using seat belts in our vehicles? 21


## HEALTH SERVICES


Where are the doctors? 23

Where do people consult the doctor? 25

Has hospital inpatient use changed? 27

Have surgical procedure rates changed? 29

Has home health care changed for different age groups? 31

Has the use of mental health facilities changed? 33


## HEALTH COSTS


How do we spend our health dollars? 35

How much do we spend for health care? 37

How much do we spend for health services and supplies? 39

Where do increasing health service costs come from? 41

Data Sources 43
About This Document 44

# LIST OF TABLES


1. Crude birth,death and natural increase rates: Rhode Island 1970 - 1980 rates per 1000 population 1

2. Life expectancy at birth, by race and sex: Rhode Island 1969 - 1971 3

3. Live birth rates by mothers' age:1970 -1980 births per 1000 population 5

4. Crude mortality rates for leading causes of death Rhode Island 1950 - 1980: Deaths per 1000 population. 7

5. Motor vehicle death rates: Rhode Island vs. U.S. 1970 - 1979. 9

6. Percent of teenagers and adults who smoke by age and sex: Rhode Island, 1975 and 1980. 11

7. Percent of population with selected chronic conditions by age: Rhode Island 1980. 13

8. Percent utilizing preventive measures by family economic status and age: Rhode Island 1975 and 1980. 15

9. SEE GRAPHIC 9

10. Changes in the consumption of various dietary components: Percentage reporting changes 1977 - 1980. 19

11. SEE GRAPHIC 11

12. Non-federal physicians active in patient care by city-town of practice. Rhode Island 1980. 23

13. Location of physician contacts by race: Rhode Island 1975 and 1980. 25

14. Resident hospital dicharges by age group: Counts and rates, Rhode Island 1974, 1976, 1979. 27

15. Surgical discharge rates for selected procedures: Rhode Island residents, 1974, 1976 and 1979. 29

16. Home health care: number of visits by age, Rhode Island 1976 - 1980. 31

17. Inpatient vs. outpatient psychiatric admissions to hospitals (1975 & 1980) and community mental health centers (1980): Rhode Island. 33

18. Distribution of health expenditures (in thousands of dollars) by source and type of expenditure: Rhode Island 1971 and 1978. 35

19. Total health expenditures in thousands of dollars and as a percentage of gross state product: Rhode Island 1971 -1979. 37

20. Per capita expenditures on health services and supplies: Rhode Island 1978. 39

21. Sources of increase in the expenditure for health services and supplies: Rhode Island 1971 - 1979. 41

# LIST OF GRAPHICS


1. Crude Rates of live births, deaths and natural increase: Rhode Island 1970 - 1980. 2

2. Life expectancy at birth by sex: Rhode Island 1969 - 1971. 4

3. Live birth rates by mother's age: 1970 - 1980; Rhode Island. 6

4. Crude mortality rates for leading causes of death in Rhode Island: 1950 - 1980. 8

5. Motor vehicle death rates United States vs. Rhode Island 1970 - 1979. 10

6. Percent of teenagers and adults who smoke by sex: Rhode Island 1975, 1980. 12

7. Percent of population with selected chronic conditions by age: Rhode Island 1980. 14

8. Use of preventive care by FES and age: Rhode Island 1975 and 1980. 16

9. Frequency of strenuous exercise for Rhode Island population: percent distribution. 18

10. Relative change in amount of various foodstuffs in Rhode Islanders' diets over past 3 years. 20

11. Use of seatbelts by Rhode Island population while driving or riding in a car: percent distribution. 22

12. Non-federal physicians active in patient care in Rhode Island: in Rhode Island: 1980. 24

13. Percent doctor visits by type and race: Rhode Island 1975 - 1980 26

14. Discharge rates for Rhode Island residents by age group: 1974, 1976, 1979. 28

15. Discharge rates for Rhode Island residents: selected procedures 1974, 1976, 1979. 30

16. Home health care: number of visits by age Rhode Island 1976 - 1980. 32

17. Inpatient and outpatient mental health admissions in hospitals and mental health facilities: Rhode Island 1975, 1980. 34

18. Distribution of health expenditures by source and type of expenditure 1971 and 1978: Rhode Island. 36

19. Percent of gross state product for health care: Rhode Island 1971 - 1979. 38

20. Per capita expenditures on health services and supplies: Rhode Island 1978. 40

21. Sources of increase in the expenditure for health services and supplies: Rhode Island 1971 - 1979. 42

# Introduction

Policy makers and the public need accurate data on health care problems and progress. These data are important as legislative and administrative solutions are sought, pondered and eventually implemented to help provide adequate, accessible and affordable health care for the people of our state.

Data from a variety of sources on state (and in some cases, federal) trends and differences in health status for our people are presented in this document. However, this document alone cannot possibly provide all the information needed by those who seek detailed answers to the complex questions and issues of health policy facing us. It can however, serve to whet the reader's appetite to a representative sample of the kinds of information available to help clarify issues and to help develop reasonable courses of action in approaching our health care problems.

# "HOW IS OUR POPULATION GROWING ?"

In 1980, 12,166 births and 9,300 deaths were recorded in Rhode Island. The difference between those two figures — 2,866 —represents the number of people added to the population as a result of natural increase. Natural increase reflects the growth of our population.

Expressed as a rate, the natural increase of the population was 3.04 per 1000 population in 1980. Although this rate was in keeping with the low levels of natural increase that have prevailed since the early 1970's, it was 10.3 percent lower than the 1979 rate.

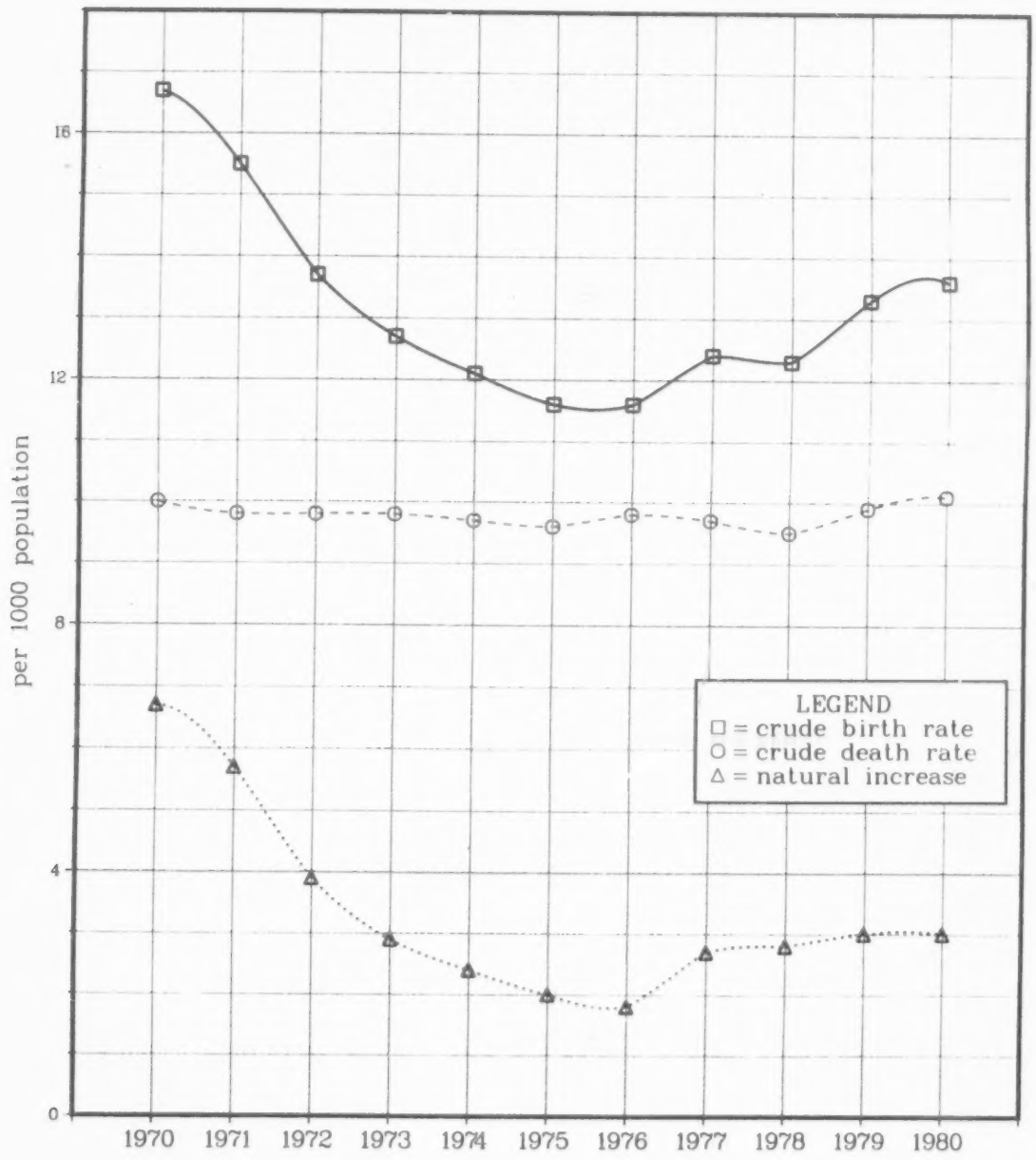
The major influence on the rate of natural increase, both here in Rhode Island and in the country as a whole, is the birth rate. During the years of the post-war baby boom in the 1950's, the state's birth rate was nearly 22 births per 1000 population, with the number of births approaching 18,000 annually. However, it dropped to a record low of 11.6 births per 1000 population for 1975 and 1976. In 1977, the birth rate increased to 12.4 births per 1000 population, the first time an increase had occurred since 1970.

The United States Bureau of the Census projects a gradual rise in the national rate of natural increase by 1983. This rise, which will undoubtedly occur in Rhode Island, is expected to result largely from higher birth rates as large numbers of women (born during the 1950's baby boom) enter their childbearing years. However, by the year 2000, the rate of natural increase is predicted to reach an historic low. This Census Bureau projection is based on the assumption that birth rates will drop after 1983 and death rates will rise slightly as the proportion of elderly people in the population increases.

Table 1.
Crude Birth, Death and Natural Increase Rates:
Rhode Island 1970 - 1980 Rates per 1000 Population.

| YEAR | BIRTH RATE | DEATH RATE | NATURAL INCREASE RATE |
|---|---|---|---|
| 1970 | 16.7 | 10.0 | 6.7 |
| 1971 | 15.5 | 9.8 | 5.7 |
| 1972 | 13.7 | 9.8 | 3.9 |
| 1973 | 12.7 | 9.8 | 2.9 |
| 1974 | 12.1 | 9.7 | 2.4 |
| 1975 | 11.6 | 9.6 | 2.0 |
| 1976 | 11.6 | 9.8 | 1.8 |
| 1977 | 12.4 | 9.7 | 2.7 |
| 1978 | 12.3 | 9.5 | 2.8 |
| 1979 | 12.8 | 9.7 | 3.1 |
| 1980 | 12.8 | 9.8 | 3.0 |

## Live Birth Rates, Crude Death Rates, and Natural Increase 1970–1980: Rhode Island



# "HOW LONG CAN WE EXPECT TO LIVE ?"

Life expectency at birth, recorded for the United States as a whole, was 70.8 years in 1970. By 1977, a record 73.2 year life expectency at birth had been reached— an increase of approximetely 2.3 years.

Rhode Island life expectancy was 71.9 years in the 1969-1971 period— one full year greater than the national figure. Adding the 2.3 year national increase in life expectancy since 1970 to the Rhode Island figure of 71.9 years places the state above the national level at 74.2 years, compared with 73.2 years nationally.

Historically, life expectancy has been greater for women than for men. Such is the case in Rhode Island. Women, in 1970, could expect to live 75.5 years on average, while men could expect to live 68.2 years.

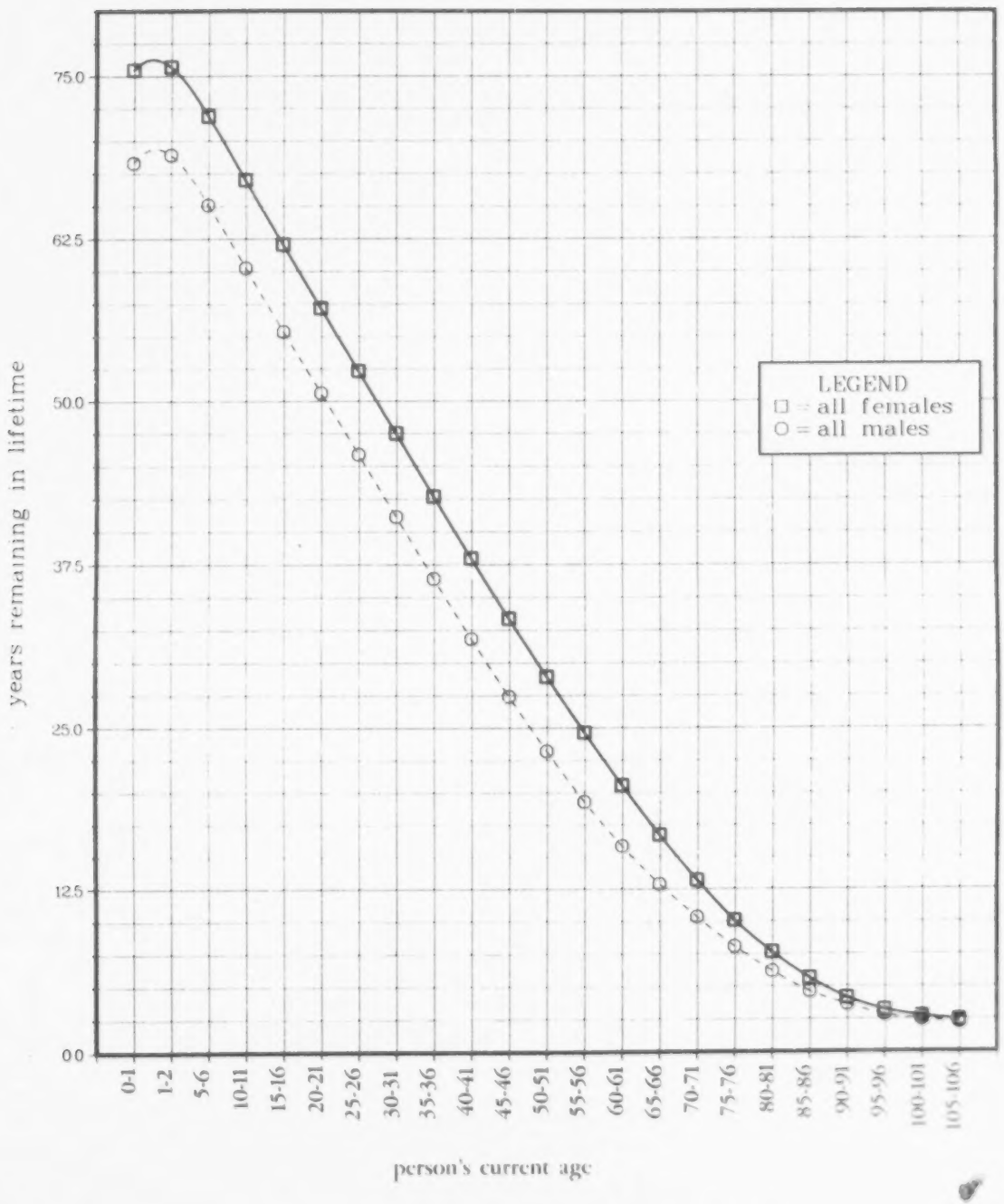
Life tables are based upon data from a three year period centered around population data from a Census year. Data reported for Rhode Island are based upon a (1969-1971) life table developed by the National Center for Health Statistics. Since the figures reported for Rhode Island women and men are based upon data collected in the 1969-1971 period, individual 1980 figures would certainly be greater if increases in life expectancy realized in the 1970's were included.

TABLE 2.
LIFE EXPECTANCY AT BIRTH, BY RACE AND SEX:
RHODE ISLAND 1969 - 1971.

| AGE RANGE IN YEARS | TOTAL POPULATION | WHITE MALES | WHITE FEMALES | ALL MALES | ALL FEMALES |
|---|---|---|---|---|---|
| | Average Remaining Lifetime | | | | |
| 0-1 | 71.90 | 68.50 | 75.62 | 68.31 | 75.48 |
| 1-2 | 72.34 | 69.04 | 75.82 | 68.92 | 75.71 |
| 5-6 | 68.51 | 65.21 | 72.00 | 65.09 | 71.89 |
| 10-11 | 63.64 | 60.36 | 67.10 | 60.25 | 66.99 |
| 15-16 | 58.73 | 55.47 | 62.17 | 55.36 | 62.06 |
| 20-21 | 53.94 | 50.72 | 57.27 | 50.62 | 57.18 |
| 25-26 | 49.14 | 45.97 | 52.41 | 45.87 | 52.32 |
| 30-31 | 44.36 | 41.21 | 47.57 | 41.13 | 47.49 |
| 35-36 | 39.61 | 36.48 | 42.74 | 36.42 | 42.68 |
| 40-41 | 34.96 | 31.84 | 38.01 | 31.82 | 37.97 |
| 45-46 | 30.45 | 27.40 | 33.40 | 27.39 | 33.37 |
| 50-51 | 26.14 | 23.18 | 28.94 | 23.19 | 28.92 |
| 55-56 | 22.07 | 19.25 | 24.62 | 19.28 | 24.63 |
| 60-61 | 18.35 | 15.83 | 20.53 | 15.85 | 20.55 |
| 65-66 | 14.96 | 12.83 | 16.67 | 12.86 | 16.71 |
| 70-71 | 11.93 | 10.29 | 13.15 | 10.32 | 13.18 |
| 75-76 | 9.23 | 8.03 | 10.03 | 8.06 | 10.07 |
| 80-81 | 7.06 | 6.15 | 7.60 | 6.18 | 7.63 |
| 85-86 | 5.26 | 4.57 | 5.59 | 4.61 | 5.63 |
| 90-91 | 3.94 | 3.54 | 4.05 | 3.62 | 4.12 |
| 95-96 | 3.06 | 2.67 | 3.04 | 2.82 | 3.18 |
| 100-101 | 2.62 | 2.20 | 2.49 | 2.43 | 2.69 |
| 105-106 | 2.37 | 1.94 | 2.18 | 2.21 | 2.42 |

# Life Expectancy at Birth by Sex

## Rhode Island 1969–1971



# "HAVE BIRTH RATES FOR WOMEN OF DIFFERENT AGES CHANGED?"

Birth rates for women in all age groups declined steadily from 1970 to approximately 1976 after peaking during the post-war baby boom in the late 1950's. In 1977, however, substantial increases in the rates for women 20 to 24, 25 to 29, and 30 to 34 years of age were evident.

These age-specific trends illustrate the delayed childbearing phenomenon. Historically, birth rates have been highest for women in their twenties, but they have shifted over time within this age group. In 1970, the birth rate for women 20 to 24 years of age was a good deal higher than the rate for women 25 to 29 years of age (6.689 versus 4.769). Between 1970 and 1975, although rates for both groups of women declined, the rate for women 20 to 24 years of age experienced a more rapid decline. By 1978, the two rates were almost exactly the same (4.141 versus 4.143). Moreover, of all groups, the 30 to 34 year old age group experienced the most dramatic rise in rate of child bearing. The net result would appear to be that women are waiting longer to begin their families, possibly due to increasing involvement in educational activities and/or the workforce.

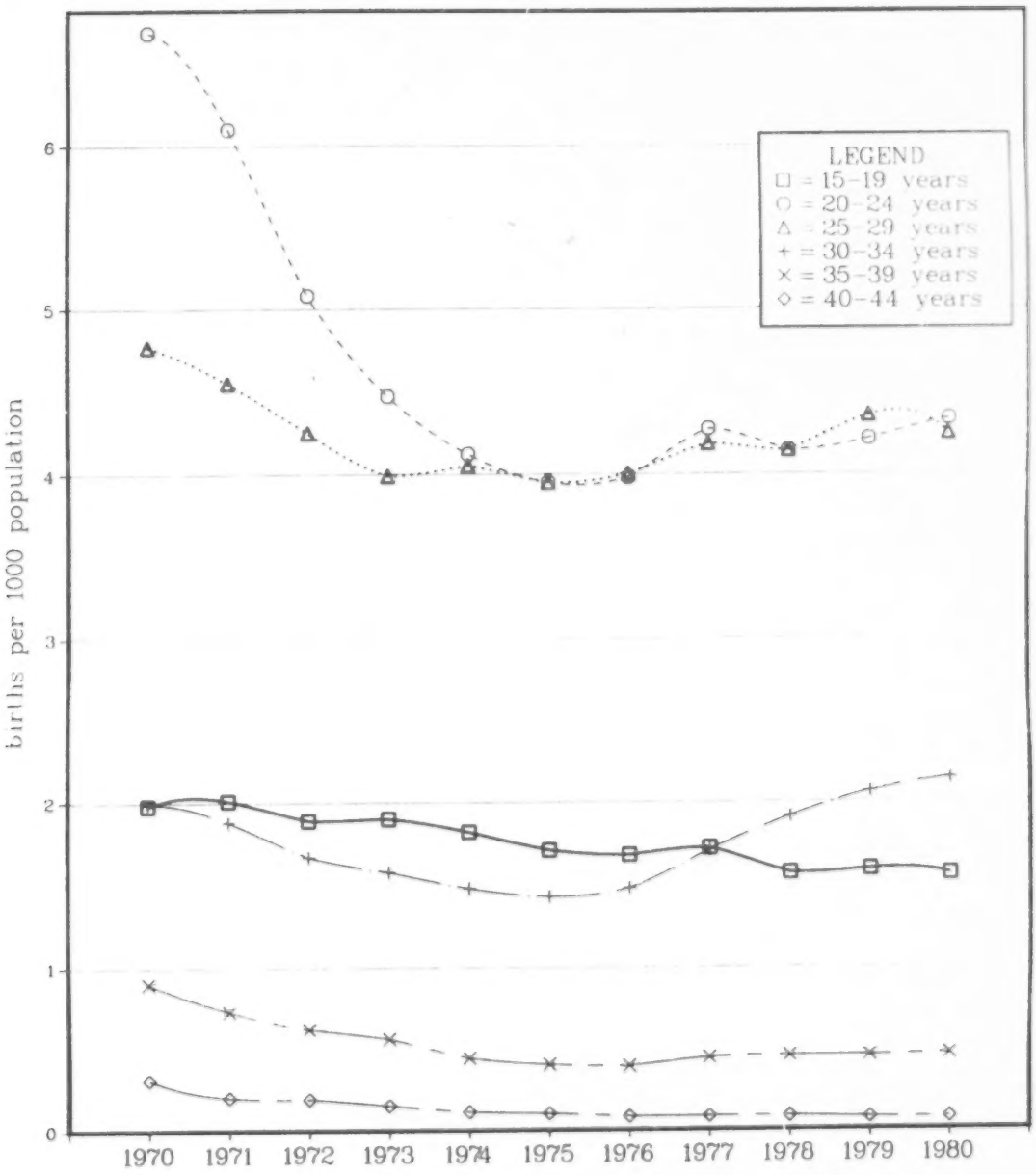
A reduction in birth rates has also been experienced in the youngest and oldest age groups. From 1970 to 1980, the rates for women 15 to 19 and 40 to 44 have declined steadily, albeit at a rather slow rate.

TABLE 3.
LIVE BIRTH RATES BY MOTHERS'S AGE, 1970 - 1980
RESIDENT BIRTHS PER 1000 POPULATION

| Year | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 |
|---|---|---|---|---|---|---|
| 1970 | 1.975 | 6.689 | 4.769 | 1.985 | .903 | .311 |
| 1971 | 2.010 | 6.102 | 4.553 | 1.883 | .726 | .199 |
| 1972 | 1.887 | 5.077 | 4.250 | 1.665 | .619 | .188 |
| 1973 | 1.895 | 4.474 | 3.993 | 1.584 | .556 | .148 |
| 1974 | 1.824 | 4.123 | 4.046 | 1.478 | .435 | .108 |
| 1975 | 1.713 | 3.947 | 3.950 | 1.429 | .399 | .097 |
| 1976 | 1.677 | 3.981 | 3.996 | 1.477 | .394 | .079 |
| 1977 | 1.716 | 4.272 | 4.182 | 1.709 | .442 | .078 |
| 1978 | 1.568 | 4.141 | 4.143 | 1.910 | .449 | .076 |
| 1979 | 1.591 | 4.207 | 4.354 | 2.058 | .453 | .072 |
| 1980 | 1.562 | 4.332 | 4.242 | 2.141 | .467 | .072 |

# Live Birth Rates By Mother's Age

## 1970-1980: Rhode Island



# "HAVE THE LEADING CAUSES OF DEATH CHANGED?"

The four leading causes of death in Rhode Island, 1980, were heart disease, cancer, stroke, and accidents. These were the same four leading causes of death in 1950.

The crude death rate for all causes of death decreased 6.4 percent between 1950 and 1980, with the fastest rates of decline occurring in the 1970's.

Historically, heart disease has been the leading cause of death in Rhode Island. However, crude death rates for heart disease have been declining since the early 1960's, with what appears to be a plateau level reached in 1976.

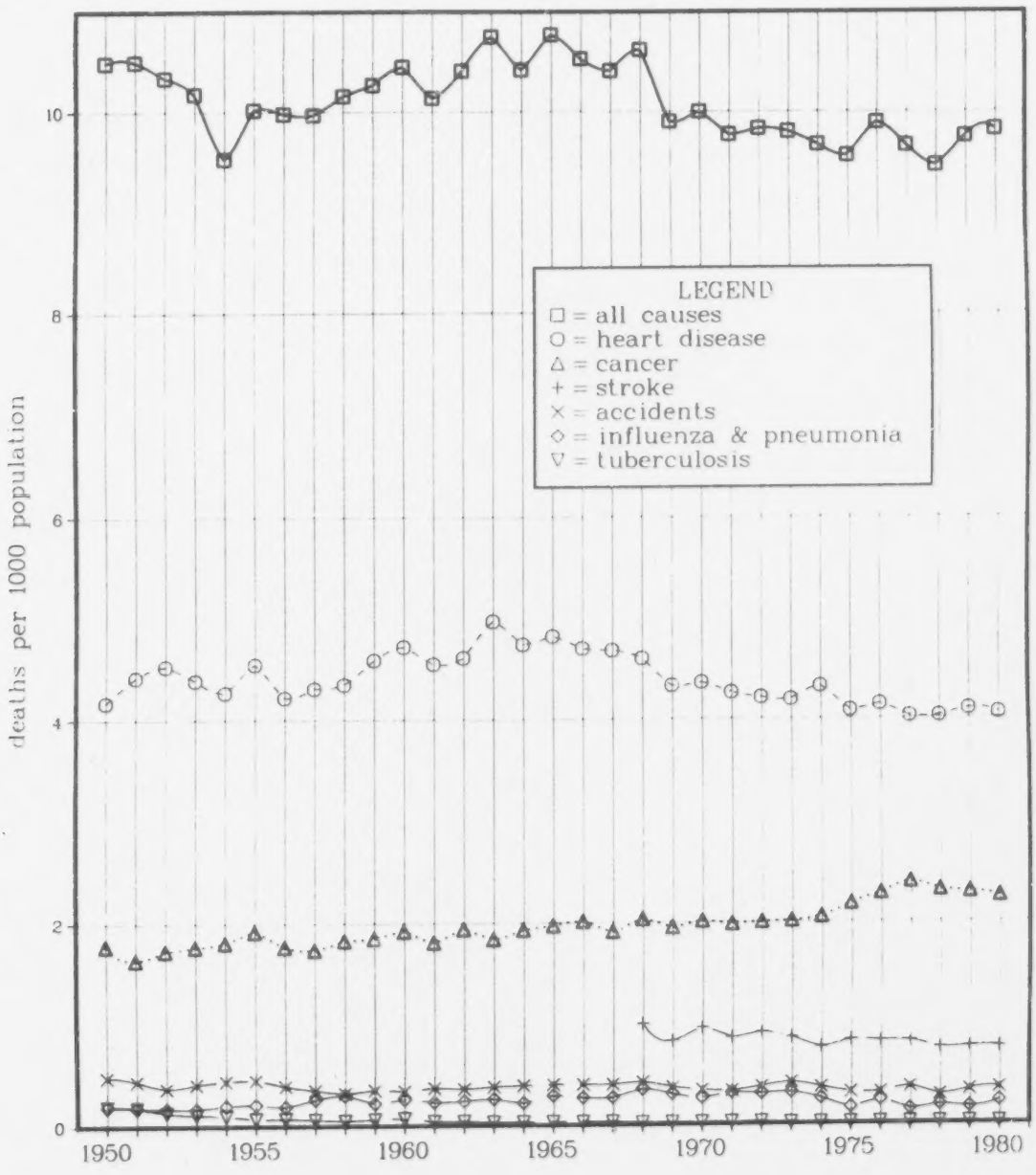
Cancer is the second leading cause of death in Rhode Island. In 1980, the crude death rate was 2.246 deaths per 1000 population, 20.7 percent higher than in 1950. Crude mortality rates for stroke, accidents, influenza and pneumonia, and tuberculosis have remained at a fairly constant level from 1950 to 1970. It is interesting to note that influenza & pneumonia and TB, the number 1 and 2 (respectively) leading causes of death in 1900, are hardly a factor today.

Note: The reader should exercise caution with regard to any conclusion drawn from the reported figures. First, crude mortality rates, defined as the number of deaths in a year per 1,000 of the population, were used to construct the adjacent table. Note, however, that crude rates in no way adjust for or reflect changes that may or may not have occurred in the age composition of the population from year to year. For example, failure to adjust for the age composition of the population has a strong impact on the representativeness and generalizability of cause-specific mortality rates. Second, recognized differences in mortality trends should be considered when evaluating these data. For example, cancer mortality has been decreasing in some sites, such as the stomach, rectum, cervix and uterus, while increasing for some sites, such as the respiratory system, breast, colon, pancreas, and bladder.

TABLE 4. CRUDE MORTALITY RATES FOR LEADING CAUSES OF DEATH
RHODE ISLAND 1950 - 1980: DEATHS PER 1000 POPULATION.

| YEAR | ALL CAUSES | HEART DISEASE | CANCER | STROKE | ACCIDENTS | INFLUENZA & PNEUMONIA | TB |
|---|---|---|---|---|---|---|---|
| 1950 | 10.491 | 4.171 | 1.781 | — | .475 | .188 | .191 |
| 1951 | 10.497 | 4.421 | 1.641 | — | .438 | .184 | .184 |
| 1952 | 10.341 | 4.526 | 1.731 | — | .370 | .170 | .125 |
| 1953 | 10.180 | 4.387 | 1.765 | — | .408 | .173 | .114 |
| 1954 | 9.528 | 4.267 | 1.808 | — | .435 | .195 | .103 |
| 1955 | 10.016 | 4.548 | 1.915 | — | .451 | .207 | .073 |
| 1956 | 9.982 | 4.220 | 1.766 | — | .387 | .186 | .074 |
| 1957 | 9.970 | 4.310 | 1.741 | — | .349 | .258 | .063 |
| 1958 | 10.159 | 4.352 | 1.830 | — | .316 | .300 | .047 |
| 1959 | 10.266 | 4.590 | 1.851 | — | .354 | .221 | .062 |
| 1960 | 10.453 | 4.724 | 1.923 | — | .343 | .256 | .071 |
| 1961 | 10.143 | 4.554 | 1.811 | — | .368 | .228 | .040 |
| 1962 | 10.411 | 4.607 | 1.935 | — | .363 | .239 | .035 |
| 1963 | 10.750 | 4.971 | 1.838 | — | .381 | .257 | .033 |
| 1964 | 10.421 | 4.744 | 1.928 | — | .391 | .224 | .027 |
| 1965 | 10.769 | 4.815 | 1.965 | — | .399 | .292 | .030 |
| 1966 | 10.528 | 4.700 | 2.011 | — | .399 | .274 | .026 |
| 1967 | 10.411 | 4.679 | 1.907 | — | .401 | .270 | .033 |
| 1968 | 10.620 | 4.595 | 2.028 | 1.001 | .422 | .345 | .023 |
| 1969 | 9.902 | 4.332 | 1.952 | .832 | .367 | .299 | .018 |
| 1970 | 10.000 | 4.355 | 2.011 | .955 | .337 | .263 | .023 |
| 1971 | 9.768 | 4.256 | 1.982 | .859 | .334 | .311 | .020 |
| 1972 | 9.834 | 4.212 | 2.003 | .910 | .365 | .299 | .022 |
| 1973 | 9.798 | 4.189 | 2.012 | .862 | .413 | .313 | .013 |
| 1974 | 9.666 | 4.321 | 2.050 | .758 | .357 | .247 | .013 |
| 1975 | 9.564 | 4.076 | 2.184 | .831 | .313 | .161 | .014 |
| 1976 | 9.890 | 4.135 | 2.284 | .821 | .310 | .229 | .013 |
| 1977 | 9.662 | 4.018 | 2.393 | .822 | .358 | .139 | .010 |
| 1978 | 9.462 | 4.015 | 2.309 | .747 | .280 | .182 | .009 |
| 1979 | 9.749 | 4.087 | 2.286 | .762 | .333 | .160 | .005 |
| 1980 | 9.819 | 4.045 | 2.246 | .763 | .346 | .217 | .005 |

# Crude mortality Rates for Leading Causes of Death in Rhode Island 1950-1980



# "HOW DOES OUR MOTOR VEHICLE DEATH RATE COMPARE TO THAT OF THE U.S.?"

Accidental deaths, of which motor vehicle deaths are a subset, have been the fourth leading cause of death in Rhode Island over the past 30 years. Almost half of Rhode Island's yearly accidental deaths are classified as motor vehicle deaths.

Between 1970 and 1973, the United States motor vehicle death rate averaged 26.5 deaths per 100,000 population. Beginning in 1974, a decline in the death rate per 100,000 population, to 22.0 per 100,000 population, was reported. An additional decline was experienced in 1975, although the rate of decrease was substantially less. However, the 1976, 1977, and 1978 rates exhibited a marked trend reversal from the low rates enjoyed in 1974 and 1975. But, 1976, 1977 and 1978 rates did not return to pre-1974 levels.

Data presented for Rhode Island motor vehicle deaths exhibit trends similar to those presented for the United States, although at a substantially lower rate. Moreover, the motor vehicle death rate in Rhode Island, for the ten year period reported, has maintained an average rate 39 percent lower than that for the United States as a whole.

Between 1970 and 1973, the Rhode Island motor vehicle death rate averaged 15.2 deaths per 100,000 population. The 1974 and 1975 Rhode Island data show a trend similar to that for the United States; an average death rate of 13.5 per 100,000 population was experienced. Rate increases in 1976 and 1977, again, similar to trends reported nationally, resulted in an average rate of 15.8 per 100,000 population. Interestingly, Rhode Island experienced a 21.1 percent decline in annual motor vehicle death rate in 1978. During the same time period the United States rate showed an increase of 6.9 percent.

Finally, Rhode Island experienced a motor vehicle death rate increase of 10.9 percent in 1979, compared with the United States rate which remained constant.

There are a number of possible explanations for the observed fluctuations in motor vehicle death rates which occurred during the 1970 to 1979 period in Rhode Island. The two trends discussed below are of particular interest.

Declines identified early in the decade (1974 and 1975) may have resulted from: 1) a decrease in the amount of personnel travel due to reductions in gasoline availability; 2) altered driving habits, such as, slower overall driving speed, and making slower starts and stops; 3) a reduction in the freeway traffic speed limit from 65 to 55 miles per hour mandated by the federal government.

Subsequent increases in the motor vehicle death rate during 1976 and 1977 may have resulted from: 1) an increase in the amount of personal travel due to an increase in the availability of gasoline; 2) an increase in the number of drivers exceeding the 55 mile per hour speed limit.

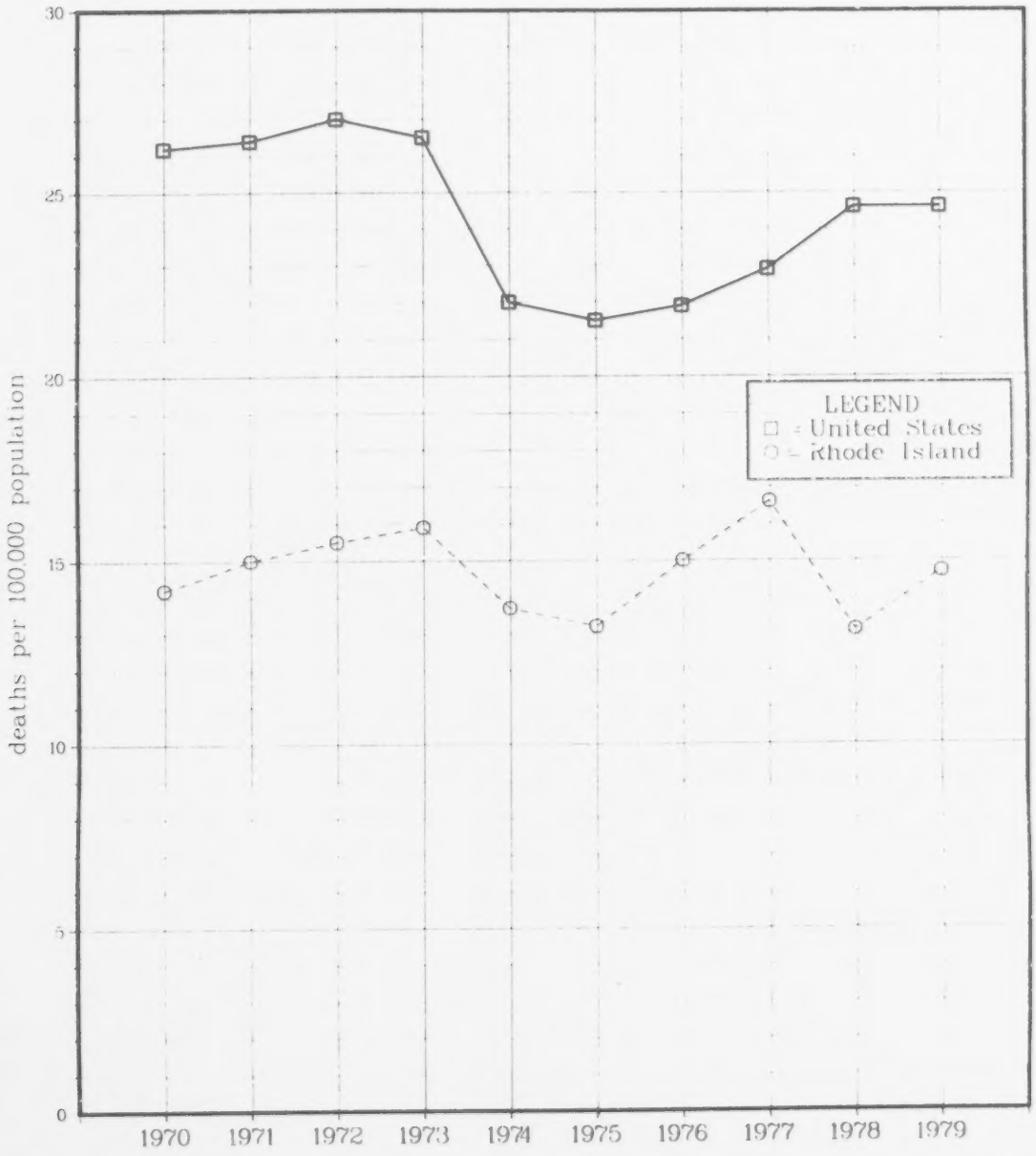
TABLE 5.
MOTOR VEHICLE DEATH RATES:RHODE ISLAND VS. UNITED STATES 1970 - 1979.

| YEAR | MOTOR VEHICLE DEATHS | | TOTAL DEATHS | | MOTOR VEHICLE DEATH RATE PER 100,000 POPULATION | |
|---|---|---|---|---|---|---|
| | R.I. | U.S | R.I. | U.S. | R.I. | U.S. |
| 1970 | 135 | 53,430 | 9,497 | 1,921,000 | 14.2 | 26.2 |
| 1971 | 142 | 54,381 | 9,377 | 1,927,542 | 15.0 | 26.4 |
| 1972 | 147 | 56,278 | 9,519 | 1,963,944 | 15.5 | 27.0 |
| 1973 | 151 | 55,511 | 9,476 | 1,973,003 | 15.9 | 26.5 |
| 1974 | 130 | 46,402 | 9,089 | 1,934,388 | 13.7 | 22.0 |
| 1975 | 125 | 45,863 | 8,866 | 1,892,879 | 13.2 | 21.5 |
| 1976 | 142 | 47,038 | 9,168 | 1,909,440 | 15.0 | 21.9 |
| 1977 | 158 | 49,510 | 9,034 | 1,899,597 | 16.6 | 22.9 |
| 1978 | 124 | 51,130 | 8,847 | 1,913,750 | 13.1 | 24.6* |
| 1979 | 140 | 51,740 | 9,060 | 1,903,000 | 14.7 | 24.6* |

*Based on a 10% sample of deaths; for all other years based on final data.

# Motor Vehicle Death Rates

## United States vs. Rhode Island 1970 1979



# "WHO ARE THE SMOKERS?"

Information on smokers was obtained from Rhode Island household interview surveys conducted statewide in 1975 and 1980.

The percentage of Rhode Island teenagers 12-19 years of age who smoke has dropped substantially during the past five years, particularly among males.

Today, approximately 16 percent of teenage males are smoking, compared with 21 percent in 1975. The proportion of teenage females who smoke, however, is approximately 18 percent, down only one percentage point from 1975. As a result, the proportion of teenage females who smoke now exceeds the proportion of teenage males who smoke.

Proportionately, fewer adults 20 years of age and over were smoking in 1980 than in 1975. The most appreciable decrease in smoking occurred among men. In 1975, approximately 44 percent of all men were smoking; by 1980, that figure had dropped to 38 percent.

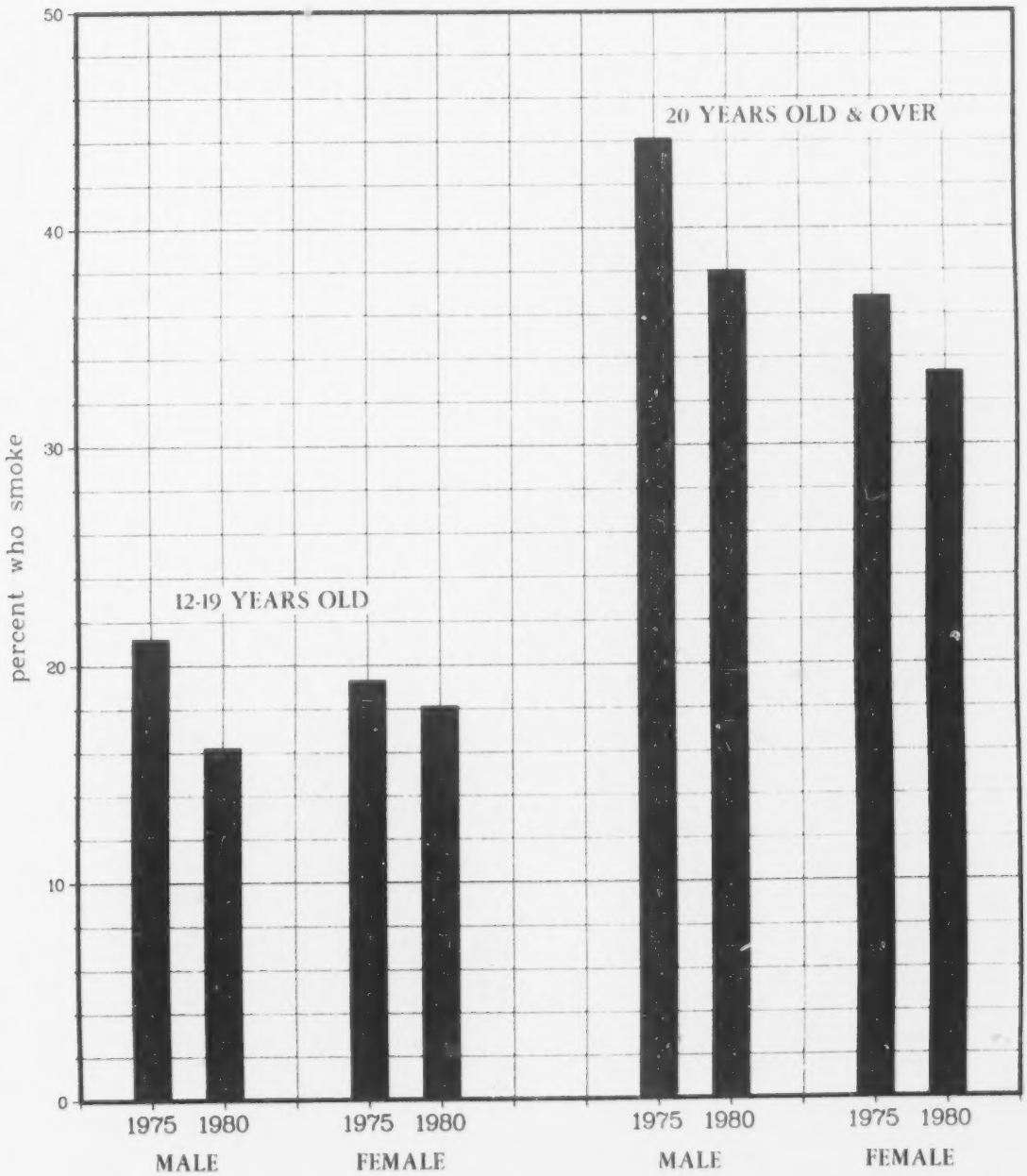
The percent of women who smoke has shown a somewhat smaller decline. In 1975, almost 37 percent of all adult women smoked, compared with 33 percent in 1980. As a result of the greater decrease for men, the differential between men and women smokers was 5 percentage points in 1980, compared with 7 percentage points in 1975.

The decrease in smoking among teenagers and adults may have resulted from a greater awareness of the health risks associated with smoking. Indeed, the trend of declining numbers of smokers may reflect the impact of antismoking campaigns conducted in recent years. In addition, the strong economic dis-incentive of rapidly rising cigarette costs may be contributing to the observed decline.

TABLE 6.
PERCENT OF TEENAGERS AND ADULTS WHO SMOKE BY AGE AND SEX:
RHODE ISLAND, 1975 AND 1980.

| Year | Age Group | Sex | Percent |
|---|---|---|---|
| 1975 | 12-19 | M | 21.2 |
| | | F | 19.3 |
| | 20 + | M | 44.1 |
| | | F | 36.8 |
| 1980 | 12-19 | M | 16.2 |
| | | F | 18.1 |
| | 20 + | M | 38.0 |
| | | F | 33.3 |

## Percent of Teenagers and Adults who Smoke by Sex Rhode Island 1975, 1980



# "WHAT IS THE AGE FACTOR IN CHRONIC CONDITIONS?"

Selected chronic conditions, reported in the 1980 Rhode Island Health Interview Survey , display an inverse relationship between percent of respondents reporting chronic conditions and age in years.

Percent of respondents reporting selected chronic conditions are as follows:

Beginning with cancer, the less than 17 years of age group reported too small a number of occurrences to be included in this analysis. The 17 to 44 year old age group reported a .29 percent prevalence rate. The 45 to 64 years of age group shows an increase of 1 percent over the previous group for a total rate of 1.39 percent. The 65 years of age and over group showed an increase of 2.75 percent over the previous age group for a total rate of 3.04 percent.

Numbers of respondents less than 17 years of age who reported having had a stroke were too small to provide meaningful analysis and, therefore, not included in the table presented. The 17 to 44 year old age group reported a .10 percent stroke occurrence. An increase of .81 percent, to .91 percent, was reported by individuals in the 45 to 64 year old age group. An increase of 1.26 percent, to 2.19 percent, is shown for the over 65 years of age group.

The prevalence of diabetes reported by individuals less than 17 years of age was .19 percent. An increase of 1.19 percent, to 1.38 percent, was reported by individuals in the 17 to 44 year old age group. The 45 to 64 year old age group reported a 6.13 percent rate, an increase of 4.75 percentage points over the previous age group. A 10 percent rate was reported by individuals in the greater than 65 year old age group, a 5.25 percent increase over the previous age group.

Emotional/mental problems were reported by 1.76 percent of the less than 17 year old age group. The 17 to 45 year old age group showed a 2.97 percent increase over the previous group; a prevalence rate of 4.73 percent was reported by this group. In addition, the 45 to 64 year old age group reported a prevalence rate of 5.39 percent. The drop in prevalence rate to 3.89 percent was reported by the greater than 65 year old age group.

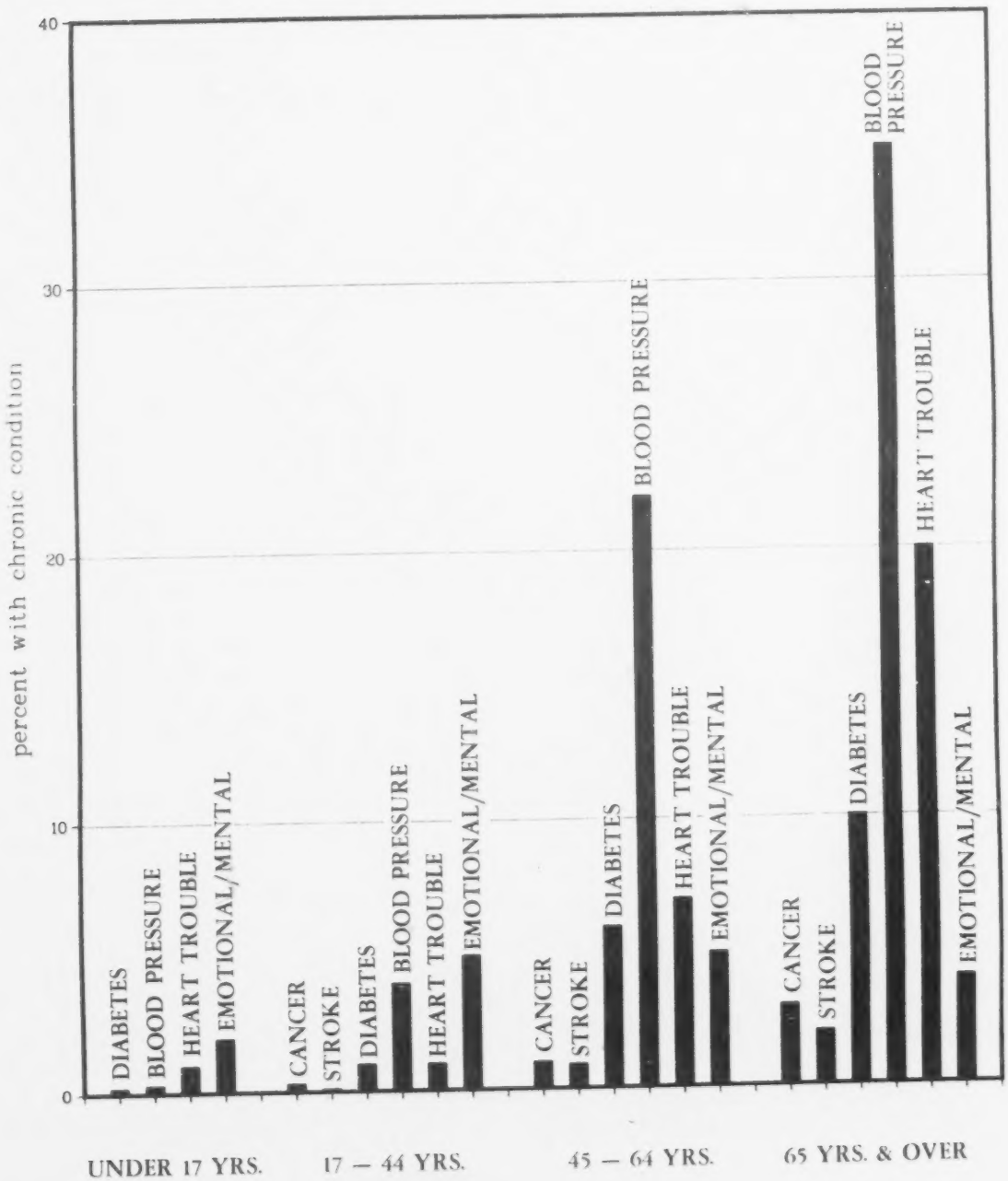
The prevalence of high blood pressure reported for the less than 17 years of age group was .31 percent. The 17 to 44 year old group reported a 4.46 percent prevalence, an increase of 4.15 percent. An 17.88 percent increase, to 22.03 percent, was reported by those in the 45 to 64 year old group. Another large increase, 13.42 percentage points, was reported for the greater than 65 year old group, resulting in a prevalence rate of 35.45 percent.

Heart trouble was reported by 1.06 percent of the less than 17 year old age group. Likewise, the 17 to 44 year old age group reported a 1.06 percent rate. The 45 to 64 year old age group reported a 7.35 percent occurrence rate. The greater than 65 year old age group reported a 19.68 percent occurrence rate, a substantial increase above the previous group.

TABLE 7.
PERCENT OF POPULATION REPORTING SELECTED CHRONIC CONDITIONS BY AGE:
RHODE ISLAND 1980.

| Condition | Age Group | | | |
|---|---|---|---|---|
| | Under 17 Years | 17-44 Years | 45-64 Years | 65 Years & Over |
| Cancer | — | .29 | 1.39 | 3.04 |
| Stroke | — | .10 | .91 | 2.19 |
| Diabetes | .19 | 1.38 | 6.13 | 10.00 |
| Heart Trouble | 1.06 | 1.06 | 7.35 | 19.68 |
| Emotional/Mental | 1.76 | 4.73 | 5.39 | 3.89 |
| High Blood Pressure | .31 | 4.46 | 22.03 | 35.45 |

## Percent of Population with Selected Chronic Conditions by Age: Rhode Island 1980



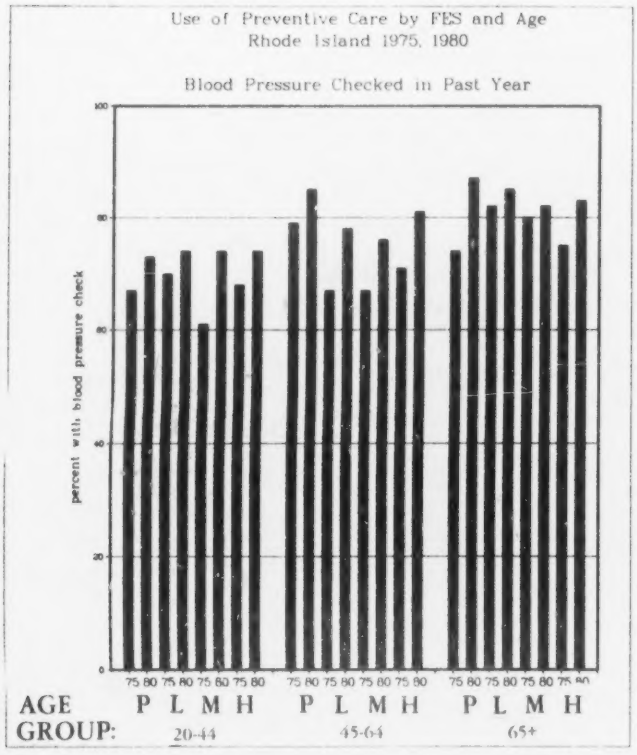
# "DO RHODE ISLANDERS USE PREVENTIVE MEDICAL CARE PROCEDURES ADEQUATELY?"

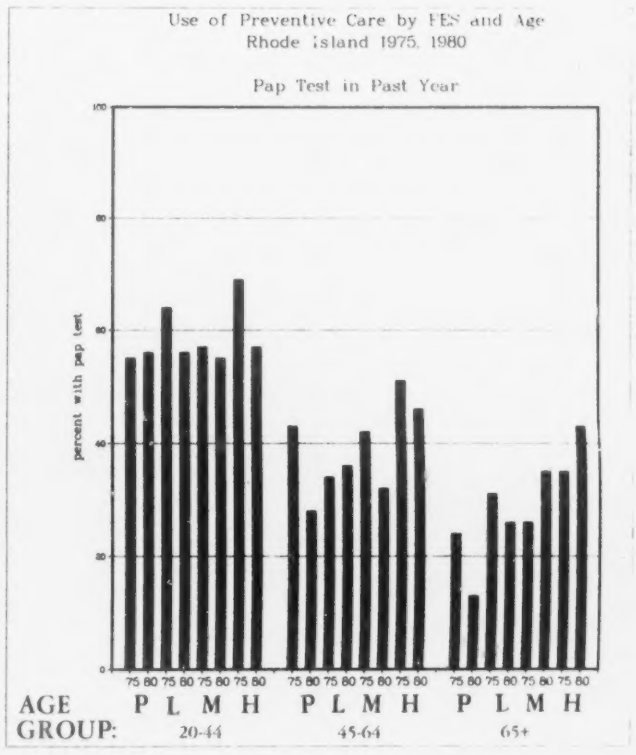
Experts have reviewed the cost-effectiveness of numerous medical procedures and have recommended a number of preventative medical procedures that should be provided periodically and selectively to members of various age groups in the general population. The extent to which Rhode Islanders use each of these preventive medical procedures as recommended is not known. However, respondents to the 1975 and 1980 Rhode Island Health Interview Surveys were asked about use of three of the recommended preventive medical procedures—blood pressure check, Pap test (females only) and breast self- examination (females only).

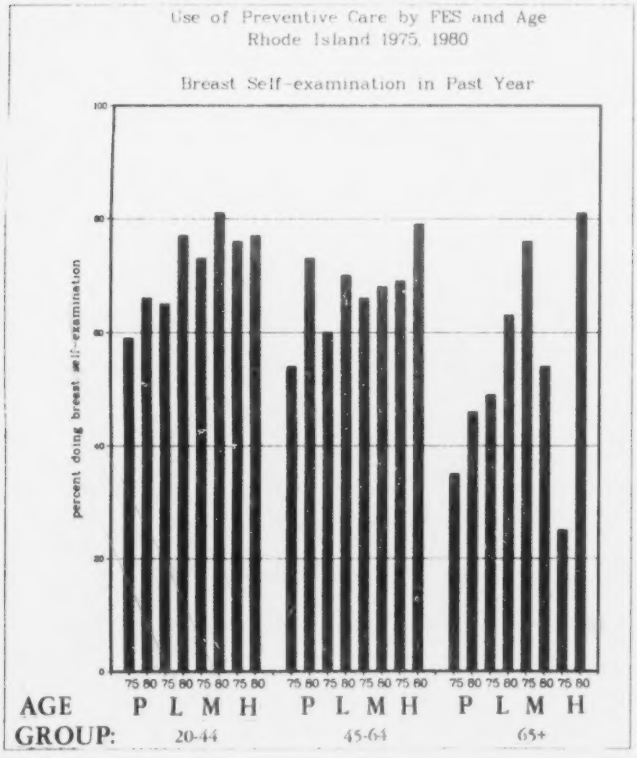
Use of these procedures by year, age group and family economic status (FES) group are displayed in the adjacent graphic. Several overall observations can be made from these data. First, a larger proportion of Rhode Islanders have their blood pressure checked than the proportions of Rhode Island women that report Pap tests or breast self-examinations. Second, use of Pap test and breast self-examination differs more by age and socioeconomic status than does use of blood pressure tests. Women age 45-64 and 65 and over are less likely to use Pap test and breast self-examination than women age 20-44 even though older women are at higher risk of cervical and breast cancers. Women in the poverty FES group are less likely to use Pap tests and breast self-examination than women in the higher FES group. Third, within age and socioeconomic groups, the use of blood pressure checks, Pap tests, and breast self-examination generally increased between 1975 and 1980. Finally, it is clear from these several indicators of use of preventive medical procedures that considerable room for improvement exists. In 1980, only 77 percent of adult Rhode Islanders had had their blood pressure checked within the past year even though it is recommended that blood pressure be checked routinely, during each contact with a health professional. In 1980, only 27 percent of women used breast self-examination in the past year, and only 45 percent of women used Pap tests in the past year. Although the recommended frequency of these procedures varies with age, it is clear that Rhode Island women are not using these procedures as frequently as is recommended.

TABLE 8. PERCENT UTILIZING PREVENTIVE MEASURES BY FAMILY ECONOMIC STATUS AND AGE: RHODE ISLAND 1975 AND 1980.

| | 1975 | | | 1980 | | |
|---|---|---|---|---|---|---|
| **BREAST SELF EXAM** | | | | | | |
| FES | 20-44 | 45-64 | 65-95 | 20-44 | 45-64 | 65-95 |
| Poverty | 9.2 | 7.0 | 27.6 | 9.9 | 10.7 | 18.6 |
| Low | 16.4 | 20.5 | 50.6 | 23.8 | 23.8 | 45.0 |
| Middle | 41.8 | 35.9 | 18.4 | 39.5 | 28.9 | 20.6 |
| High | 32.6 | 36.6 | 3.4 | 26.8 | 36.5 | 15.9 |
| **PAP TEST** | | | | | | |
| FES | 20-44 | 45-64 | 65-95 | 20-44 | 45-64 | 65-95 |
| Poverty | 9.6 | 6.8 | 25.0 | 10.3 | 7.7 | 9.1 |
| Low | 16.2 | 16.0 | 45.8 | 22.6 | 24.3 | 37.0 |
| Middle | 37.1 | 34.7 | 14.6 | 35.4 | 27.0 | 29.4 |
| High | 37.1 | 42.5 | 14.6 | 31.7 | 41.0 | 24.5 |
| **BLOOD PRESSURE** | | | | | | |
| FES | 20-44 | 45-64 | 65-95 | 20-44 | 45-64 | 65-95 |
| Poverty | 8.5 | 6.9 | 27.9 | 8.0 | 8.4 | 16.4 |
| Low | 17.2 | 17.3 | 45.2 | 20.7 | 21.7 | 39.7 |
| Middle | 39.0 | 36.2 | 17.3 | 38.2 | 32.4 | 25.2 |
| High | 35.3 | 39.7 | 9.6 | 33.1 | 37.4 | 18.7 |


Use of Preventive Care by FES and Age
Rhode Island 1975, 1980
Blood Pressure Checked in Past Year
percent with blood pressure check
AGE GROUP:
P L M H P L M H P L M H
20-44
45-64
65+


Use of Preventive Care by FES and Age
Rhode Island 1975, 1980
Pap Test in Past Year
percent with pap test
AGE GROUP:
P L M H P L M H P L M H
20-44
45-64
65+


Use of Preventive Care by FES and Age
Rhode Island 1975, 1980
Breast Self-examination in Past Year
percent doing breast self-examination
AGE GROUP:
P L M H P L M H P L M H
20-44
45-64
65+

INCOME GROUP:
P = POVERTY
L = LOW
M = MIDDLE
H = HIGH

## "DO RHODE ISLANDERS EXERCISE ENOUGH TO ACHIEVE AND MAINTAIN FITNESS?"

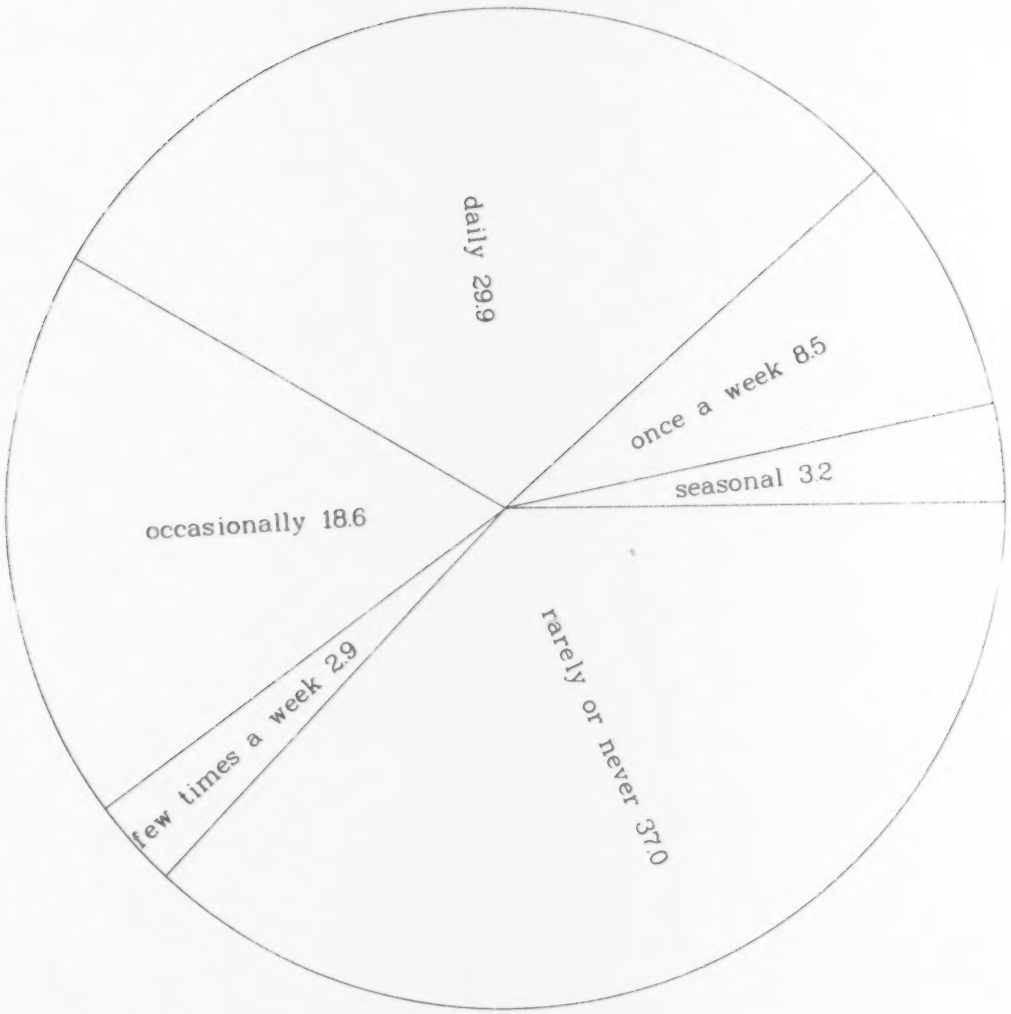
Between 1976 and 1980 a fairly consistent proportion of Rhode Islanders reported that they sometimes participated in physical activities. In surveys sponsored by Blue Cross/Blue Shield in 1976/1977, 63 percent of respondents reported that they participated in physical activities. In 1978, 64 percent of respondents to the Heart Health Survey reported participation in physical activities. And in 1980, 63 percent of respondents to the Health Interview Survey reported that they sometimes participated in strenuous physical activities.

According to fitness experts, one must engage in strenuous exercise (i.e.) jogging, running, singles tennis, jumping rope, etc.) several times per week in order to achieve or maintain fitness. As shown in the adjoining figure, it is clear that about 33 percent of Rhode Islanders engage in strenuous exercise frequently enough to attain fitness. While those who exercise once per week, occasionally, or seasonally will receive other benefits from relatively infrequent activity, they cannot expect to achieve physical fitness.

In summary, it appears that almost two-thirds of the Rhode Island population engages in some physical exercise; and about one-third of the population engages in strenuous exercise frequently enough to attain physical fitness. The fact that one-third of our population may be physically fit is an achievement. However, there is room for improvement. The Objectives for the Nation established by the U.S. Public Health Service recommend that by 1990, 60 percent of adults should participate regularly in vigorous physical exercise.

Frequency of Strenuous Exercise
by Rhode Island Population – 1980

percent distribution



## "IS THE COMPOSITION OF THE RHODE ISLAND DIET IMPROVING?"

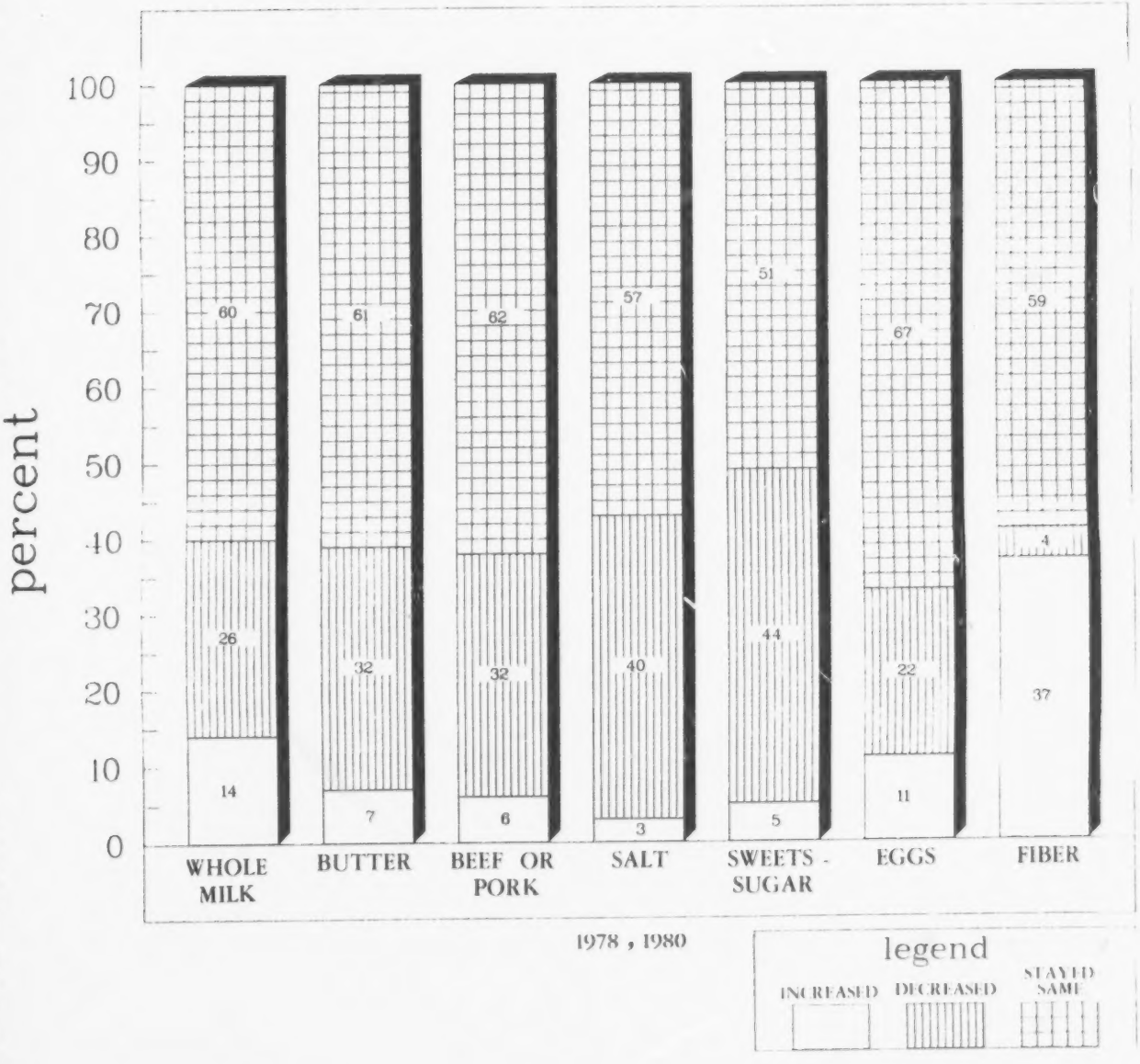
To assess the adequacy of the Rhode Island diet, ideally one would examine the quantities and proportions of many foodstuffs that composed the average diet of the population. Such complete dietary information is not available. However, the 1980 Rhode Island Health Interview Survey collected information on change in consumption of several foodstuffs. Survey respondents were asked whether during the past three years their consumption had increased, decreased, or stayed about the same for the following food items: whole milk, butter, beef or pork, salt, sweets or sugar, eggs, and fiber or bulk such as bran, raw fruits, and vegetables. Trends in consumption of these selected foodstuffs indicate to some extent whether or not the diet of Rhode Islanders is improving.

As can be seen from the adjoining figure, trends in the consumption of the seven foodstuffs indicate definite improvement in the diet of Rhode Islanders. On the one hand, a greater tendency to decrease than to increase the consumption of whole milk, butter, beef or pork, salt, sugar or sweets, and eggs was observed. More than ten times the number of people decreased consumption of salt than did those who increased salt consumption. Approximately twice the number of people decreased consumption of whole milk and eggs than did those who increased consumption of these foodstuffs. The greater tendency to decrease them than to increase consumption of these food items represents improvement in diet. On the other hand, approximately ten times the number of people increased consumption of fiber, raw fruits and vegetables than did those who decreased consumption of these food items. Greater consumption of fiber also represents improvement in diet. Thus, based upon trends in consumption of these seven dietary items one would conclude that the diet of Rhode Islanders improved between 1977 and 1980. Finally, each of the observed changes in diet in Rhode Island is consistent with attainment of the Dietary Goals for the United States recently established by the Select Committee on Nutrition and Human Needs of the United States Senate.

TABLE 10.
CHANGES IN THE CONSUMPTION OF VARIOUS DIETARY COMPONENTS:
PERCENTAGE REPORTING CHANGES 1977 - 1980.

| Percent Reporting: | Dietary Component: WHOLE MILK | BUTTER | BEEF/ PORK | SALT | SWEETS/ SUGAR | EGGS | FIBER |
|---|---|---|---|---|---|---|---|
| INCREASED CONSUMPTION | 13.8 | 6.7 | 5.9 | 3.2 | 5.3 | 1.2 | 36.9 |
| DECREASED CONSUMPTION | 26.3 | 31.9 | 32.3 | 39.6 | 43.7 | 22.4 | 4.3 |
| LEVEL CONSUMPTION | 60.0 | 61.4 | 61.8 | 57.2 | 51.1 | 66.4 | 58.8 |

# Relative Change in Amount of Various Foodstuffs in Rhode Islanders' Diets over Past 3 Years



# "ARE WE USING SEAT BELTS IN OUR VEHICLES?"

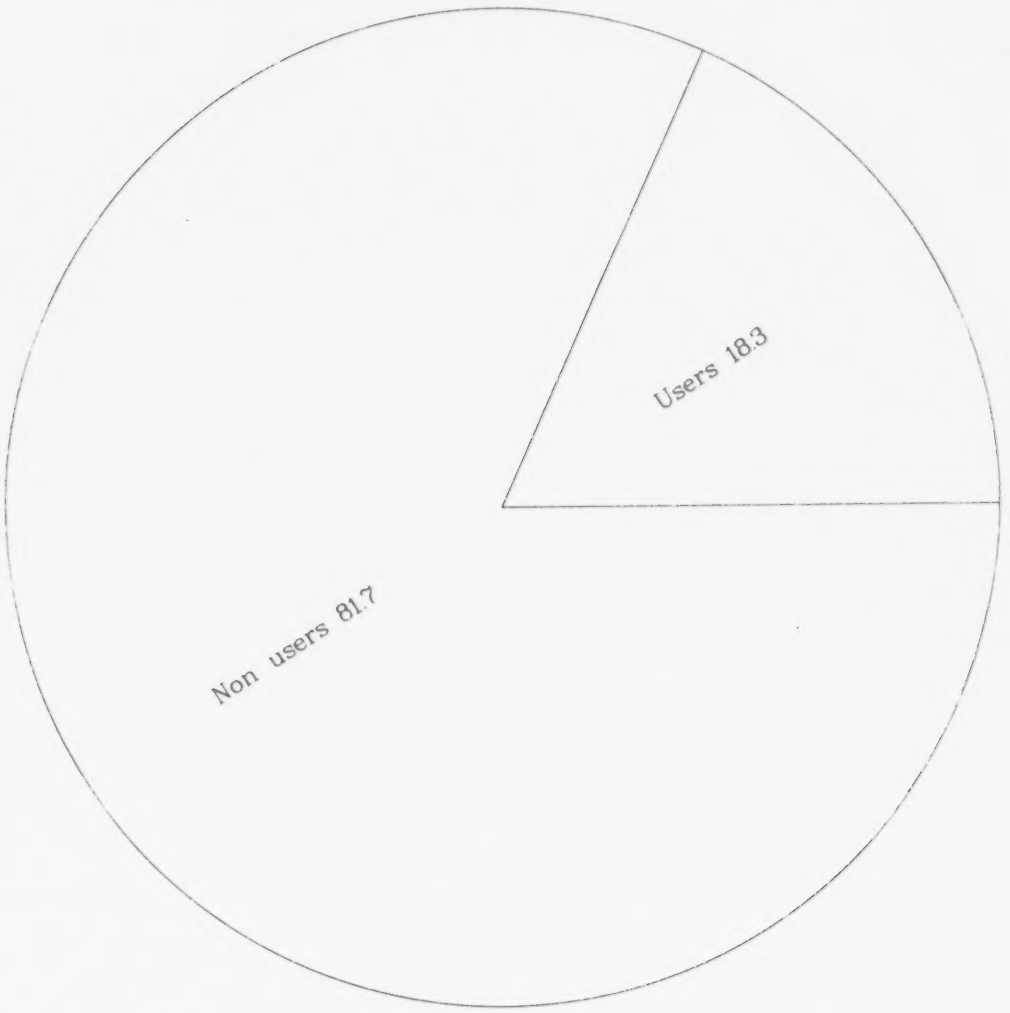
Seat belts are generally acknowledged as a major factor in reducing both injuries and deaths associated with motor vehicle accidents. Yet it would appear that despite this knowledge, many Rhode Islanders still fail to take advantage of this now virtually universal life saving device.

18.3 percent of Rhode Islanders surveyed in 1980 reported themselves as seatbelt users, while a staggering 81.7 percent reported themselves as non-users. On the bright side, the proportion of Rhode Islanders who report regular seat belt use appears to be slightly higher than the proportion (about 11 percent) of all Americans who report regular use of seat belts.

In spite of the presence of seat belts in most cars on the road today and the extensive promotional messages regarding the benefits of seat belt utilization, the vast majority of Rhode islanders still do not use seat belts.

An interesting contrast is seen in the utilization of child restraint devices when compared to adult seat belt utilization. Approved child car seats, required by Rhode Island state law since the spring of 1980, provide hope for a marked reduction in the single most important cause of childhood mortality, auto crashes. Latest available figures indicate that approximately 50 percent of Rhode Island two year olds and more than 50 percent of infants are normally protected by approved car seats. In contrast, only 22 percent of the state's youngsters were protectd prior to the adoption of the child restraint law. These data provide encouraging evidence that legislative initiatives to promote the public's health and safety have a positive impact on the utilization of health and safety measures by the public.

Use of Seatbelts by Rhode Island Population while Driving or Riding in a Car percent distribution



# "WHERE ARE THE DOCTORS?"

Doctors are unevenly distributed across the state, with the greatest concentration of active non-federal physicians occuring in the city of Providence - which has 42.5 physicians per 10,000 population.

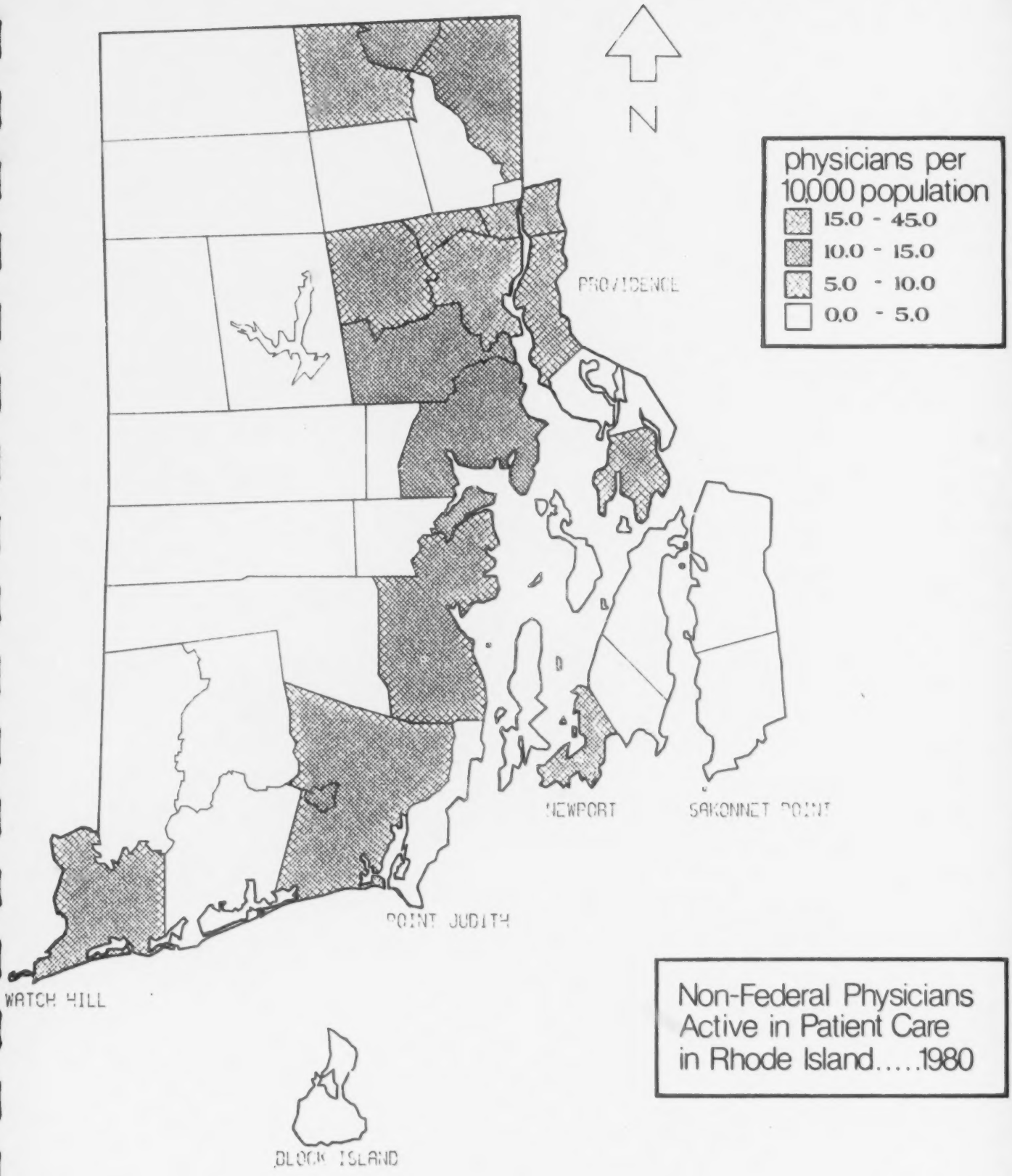
In contrast, the areas of Coventry, Lincoln, Middletown, Portsmouth and Warren have less than 2 physicians per 10,000 population. Overall, Rhode Island has 14.3 active non-federal physicians per 10,000 population.

These data concerning physician practice locations are often utilized in the identification of physician manpower shortage areas within Rhode Island. Areas designated as "health manpower shortage areas" are eligible for certain types of federal assistance, such as physician placement by the National Health Service Corps and other programs.

Fortunately, the state's small area size and urban nature militates against problems associated with a less than uniform geographic distribution of physicians.

TABLE 12.
NON-FEDERAL PHYSICIANS ACTIVE IN PATIENT CARE BY CITY-TOWN OF PRACTICE:
RHODE ISLAND 1980.

| City-Town | Count | /10,000Pop. |
|---|---|---|
| Barrington | 6 | 3.709 |
| Bristol | 12 | 5.961 |
| Burrillville | 5 | 3.798 |
| Central Falls | 8 | 4.707 |
| Charlestown | 2 | 4.166 |
| Coventry | 5 | 1.847 |
| Cranston | 100 | 13.890 |
| Cumberland | 15 | 5.541 |
| East Greenwich | 5 | 4.896 |
| East Providence | 41 | 8.042 |
| Exeter | 2 | 4.491 |
| Foster | 1 | 2.967 |
| Glocester | 2 | 2.649 |
| Jamestown | 2 | 4.950 |
| Johnston | 16 | 6.423 |
| Lincoln | 3 | 1.770 |
| Little Compton | 1 | 3.241 |
| Middletown | 3 | 1.742 |
| Narragansett | 5 | 4.136 |
| Newport | 56 | 19.139 |
| North Kingstown | 11 | 5.014 |
| North Providence | 18 | 6.166 |
| North Smithfield | 16 | 16.044 |
| Pawtucket | 115 | 16.150 |
| Portsmouth | 2 | 1.402 |
| Providence | 667 | 42.537 |
| Scituate | 2 | 2.379 |
| Smithfield | 5 | 2.961 |
| South Kingstown | 31 | 15.185 |
| Tiverton | 3 | 2.217 |
| Warren | 2 | 1.879 |
| Warwick | 96 | 11.018 |
| West Warwick | 9 | 3.330 |
| Westerly | 37 | 19.913 |
| Woonsocket | 55 | 11.978 |




Non-Federal Physicians
Active in Patient Care
in Rhode Island.....1980

# "WHERE DO PEOPLE CONSULT THE DOCTOR?"

The majority of Rhode Islanders consult doctors at their offices, although a larger proportion of white individuals go to the doctor's office than non-white individuals. The "doctor's office" category consists of visits to private practioners offices, prepaid group practice locations, health maintenance organizations and to physicians based in non-military hospitals. In 1980, 70.2 percent of all doctor visits by white individuals were at the office, compared with 58.4 percent of all doctor visits by non-white individuals. Interestingly, a modest decline in office consultation for both groups occurred between 1975 and 1980 — 1.54 percent and .34 percent, respectively.

Members of non-white racial groups received 15.9 percent of their care at either hospital emergency rooms, hospital clinics, hospital outpatient departments or to the so-called free-standing "emergency" rooms. In contrast, whites utilized these service locations only 5.7 percent of the time.

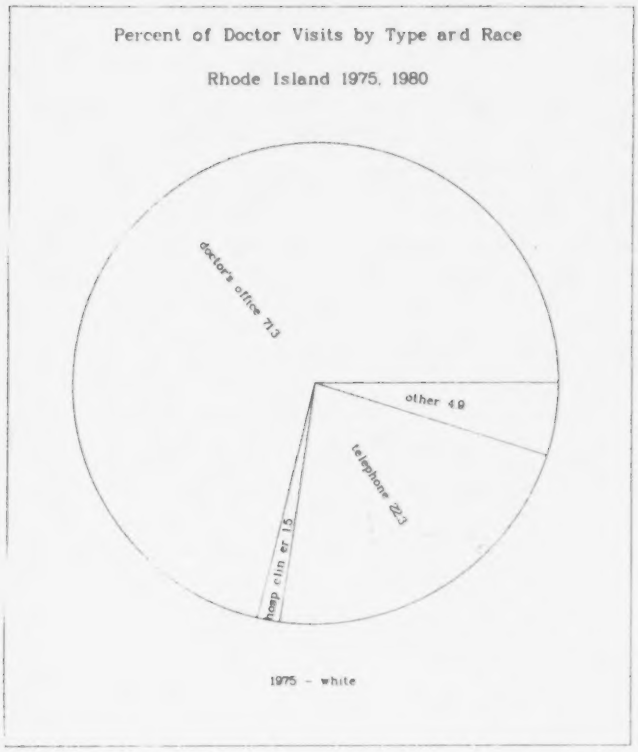
In 1980, white individuals recieved 5.3% of their care at "other" provider locations. At the same time, non-white individuals recieved 9.3% of their care at "other" provider locations. The "other" category consists of visits to community mental health centers, neighborhood health centers, clinics located at either school or work, care delivered in the home or provided by military health services.

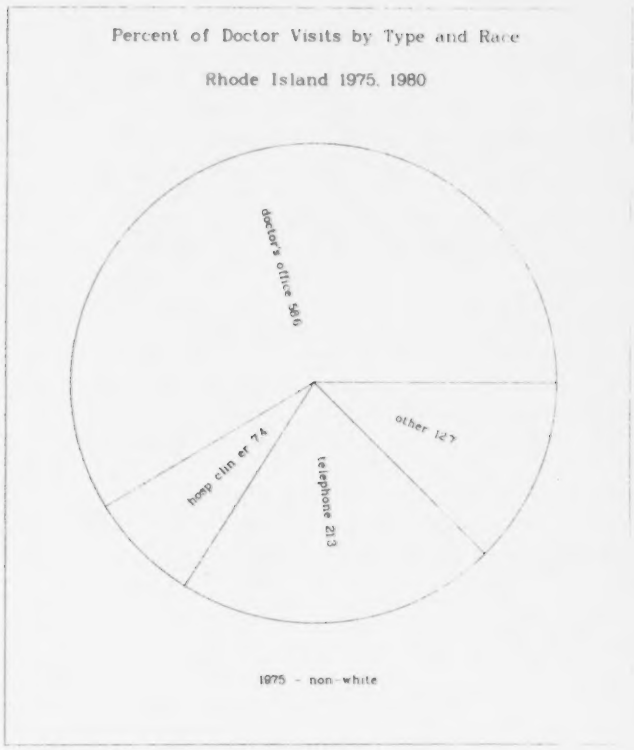
White individuals used the telephone to consult with doctors more often than non-white individuals in 1980, although the difference amounted to only approximately 13 percent.

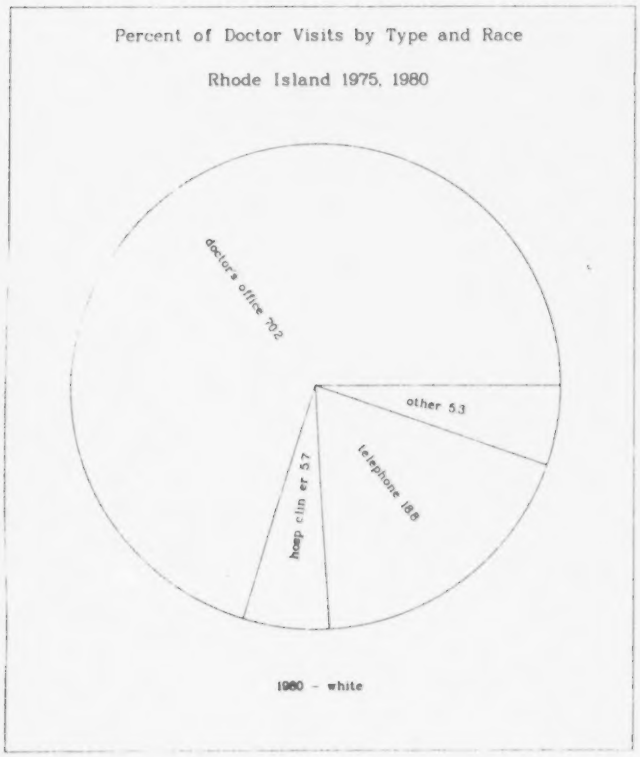
TABLE 13.
LOCATION OF PHYSICIAN CONTACTS BY RACE: RHODE ISLAND 1975 AND 1980.

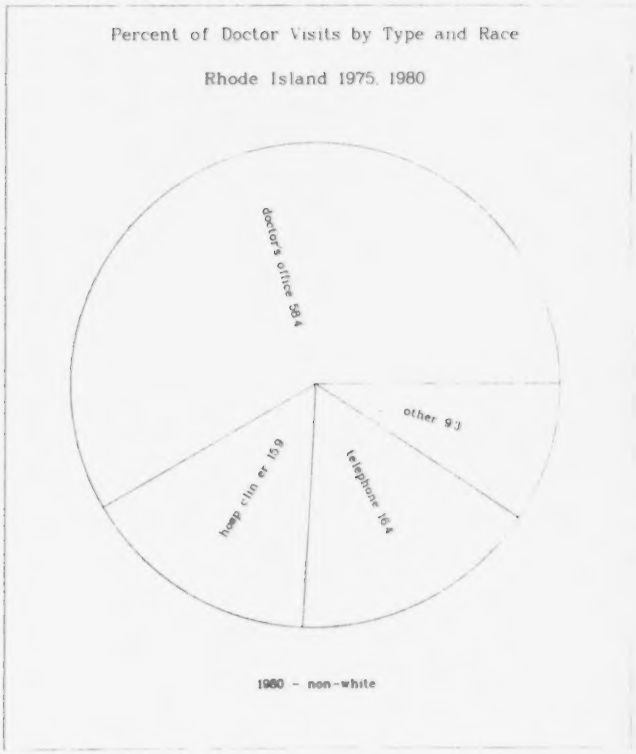
Percent of Total Contacts

| | 1975 | | 1980 | |
|---|---|---|---|---|
| | WHITE | NON-WHITE | WHITE | NON-WHITE |
| Doctors Office | 71.3 | 58.6 | 70.2 | 58.4 |
| Hospital Clinic, Emergency Room | 1.5 | 7.4 | 5.7 | 15.9 |
| Telephone | 22.3 | 21.3 | 18.8 | 16.4 |
| Other | 4.9 | 12.7 | 5.3 | 9.3 |


Percent of Doctor Visits by Type and Race
Rhode Island 1975, 1980
doctor's office 71.3
other 4.9
telephone 22.3
hosp clin er 1.5
1975 - white


Percent of Doctor Visits by Type and Race
Rhode Island 1975, 1980
doctor's office 56.6
other 12.7
telephone 21.3
hosp clin er 7.4
1975 - non-white


Percent of Doctor Visits by Type and Race
Rhode Island 1975, 1980
doctor's office 70.2
other 5.3
telephone 18.8
hosp clin er 5.7
1980 - white


Percent of Doctor Visits by Type and Race
Rhode Island 1975, 1980
doctor's office 58.4
other 9.3
telephone 16.4
hosp clin er 15.9
1980 - non-white

# "HAS HOSPITAL INPATIENT USE CHANGED?"

The utilization of short-stay, non-psychiatric hospitals in Rhode Island (Fogarty, Woonsocket, Memorial, Notre Dame, Cranston General, Miriam, Women and Infants, Rhode Island, Roger Williams, St. Joseph's, Kent County, South County, Westerly, and Newport hospitals) increased 2.1 percent from 1976 to 1979. The rate of discharges from those hospitals rose from 126.9 per 1000 population to 129.6 during the 3-year period, with the number of discharges increasing from 120,155 in 1976 to 122,715 in 1979.

The largest increase in discharge rates were for individuals 65 years of age and over. Between 1976 and 1979, discharge rates for this group showed an 11 percent rise, while at the same time rates declined slightly for individuals under 65 years of age, perhaps due to an increased utilization of outpatient surgery departments by individuals in this age group.

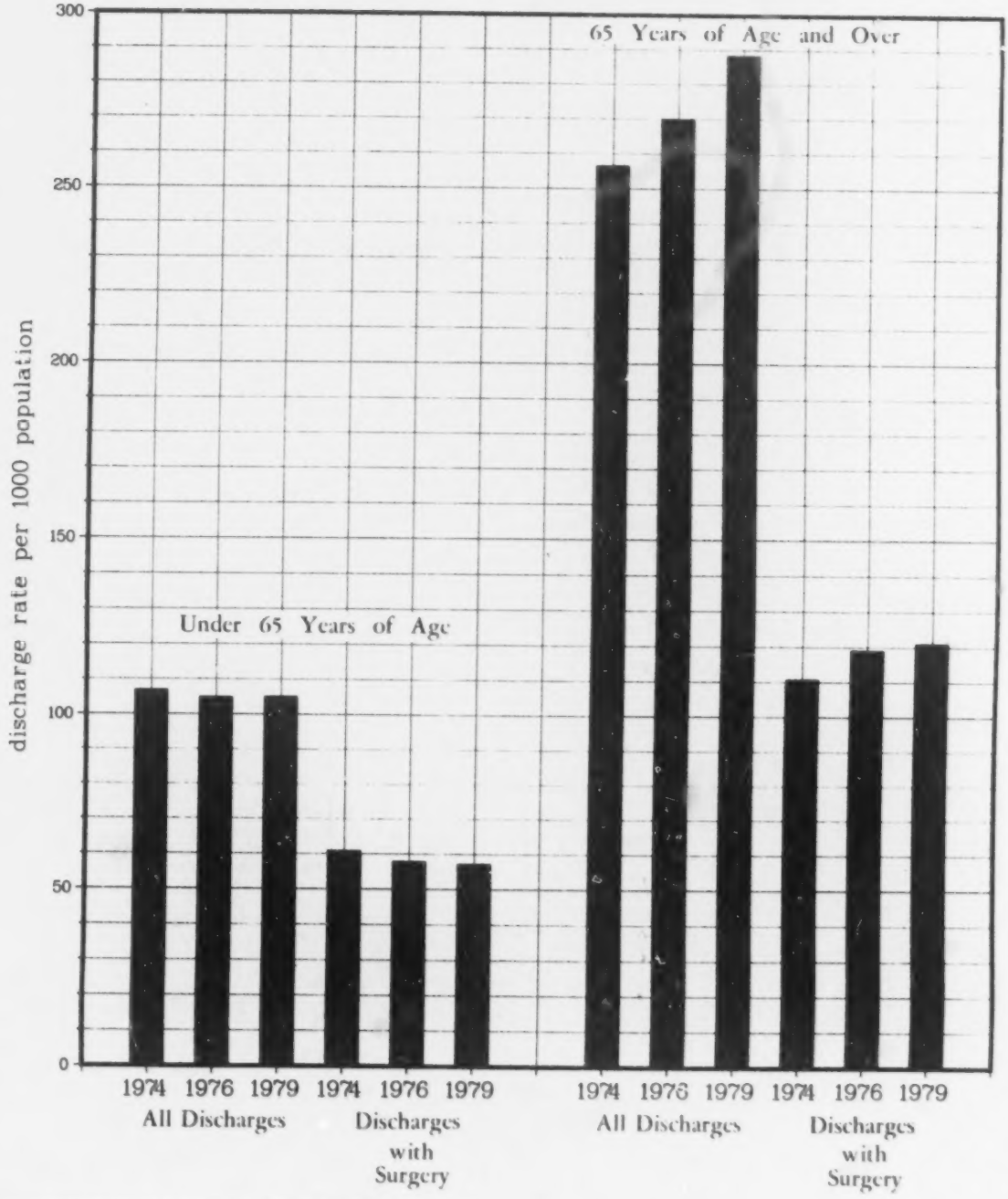
Part of the increase in hospital use can be attributed to higher surgery rates. From 1976 to 1979, surgical rates for individuals 65 years of age and over rose 8.4 percent, compared with a 6.1 percent decrease for those under 65 years of age.

An aging population with its attendant medical problems, may have contributed marginally to the greater occurrence of surgery during the period reported. Note, however, that there is no tangible evidence that the prevalence of conditions leading to surgical intervention has increased. Finally, more sophisticated medical technologies, such as CAT scanning, improved anesthesia, and improved pharmaceuticals, may have contributed to the greater incidence of surgery during the recent past.

TABLE 14.
RESIDENT HOSPITAL DISCHARGES BY AGE GROUP:
COUNTS AND RATES, RHODE ISLAND 1974, 1976, 1979.

| | 1974 | | 1976 | | 1979 | |
|---|---|---|---|---|---|---|
| | Count | Rate | Count | Rate | Count | Rate |
| Under 65 Years | | | | | | |
| Total | 87600 | 106.8 | 85960 | 104.8 | 86124 | 105.0 |
| With Surgery | 49870 | 60.8 | 47409 | 57.8 | 46835 | 57.1 |
| 65 Years & Over | | | | | | |
| Total | 32555 | 256.5 | 34205 | 269.5 | 36591 | 288.3 |
| With Surgery | 14050 | 110.7 | 15103 | 119.0 | 15344 | 120.9 |
| All Ages | | | | | | |
| Total | 120155 | 126.9 | 120165 | 126.9 | 122715 | 129.6 |
| With Surgery | 63920 | 67.5 | 62512 | 66.0 | 62179 | 65.6 |

## Discharge Rates for Rhode Island Residents by Age Group 1974, 1976, 1979



# "HAVE SURGICAL PROCEDURE RATES INCREASED?"

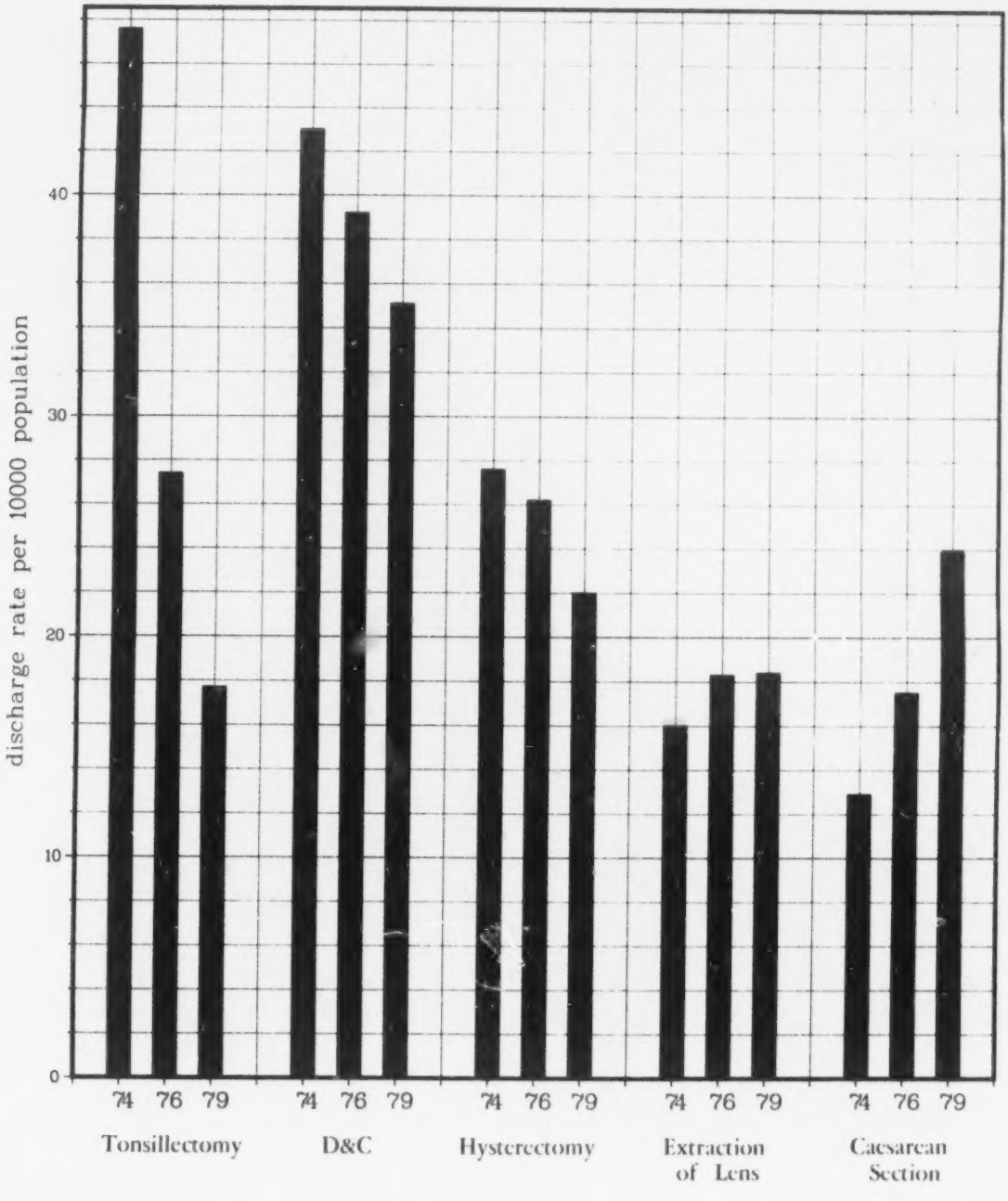
Due to the high costs associated with hospital stays for surgical interventions, much concern has been voiced regarding their increased frequency. Surgical rates for all surgical procedures remained fairly constant in the middle and late 1970's, at least as measured by inpatient statistics. However, the rate for some procedures, such as cataract surgery, particularly among the elderly, continued to rise. Indeed, the rise in surgery may result from changing criteria for performing surgery and the introduction of innovative surgical techniques. Two of the five surgical procedures shown exhibited increasing rates per 10,000 population between 1974 and 1979. During this 5-year period, the rate for Caesarean section increased 85 percent. An increase of 15 percent is shown for lens extraction (i.e. cataract surgery).

The three remaining categories, dilation and curettage, hysterectomy, and tonsillectomy showed decreases of 18.4, 20.3, and 63.0 percent, respectively, for the 5 year period reported. This substantial downward trend may be the result of a change in medicine's direction and attitudes with regard to the efficacy and/or advisability of utilizing these procedures. It may also reflect the rising trend in the performance of these procedures in an outpatient, rather than an inpatient surgical setting.

TABLE 15.
SURGICAL DISCHARGE RATES FOR SELECTED PROCEDURES:
RHODE ISLAND RESIDENTS - 1974, 1976 & 1979.

| Procedure | Discharge Rate Per 10,000 Population | | |
|---|---|---|---|
| | 1974 | 1976 | 1979 |
| Tonsillectomy, with or without adeniodectomy | 47.6 | 27.4 | 17.7 |
| Dilation and currettage | 43.0 | 39.2 | 35.1 |
| Hysterectomy | 27.6 | 26.2 | 22.0 |
| Extraction of lens(Cataracts) | 16.0 | 18.3 | 18.4 |
| Caesarean section | 12.9 | 17.5 | 23.9 |

## Discharge Rates for Rhode Island Residents
## Selected Procedures
## 1974, 1976, 1979



# "HAS THE PROVISION OF HOME HEALTH CARE CHANGED FOR DIFFERENT AGE GROUPS?"

Home health care, an effective alternative to institutional habilitation, has shown a substantial increase in the overall number of visits made to clients across the state in the past five years.

The single largest increase in the number of visits took place in the 5 week to one year age group - an increase of 88.4 percent for the period 1976 to 1980. An interesting contrast is seen in the birth to 4 weeks age group, which showed a dramatic reduction in the number of home care visits - a reduction of 62.2 percent for the period 1976 to 1980.

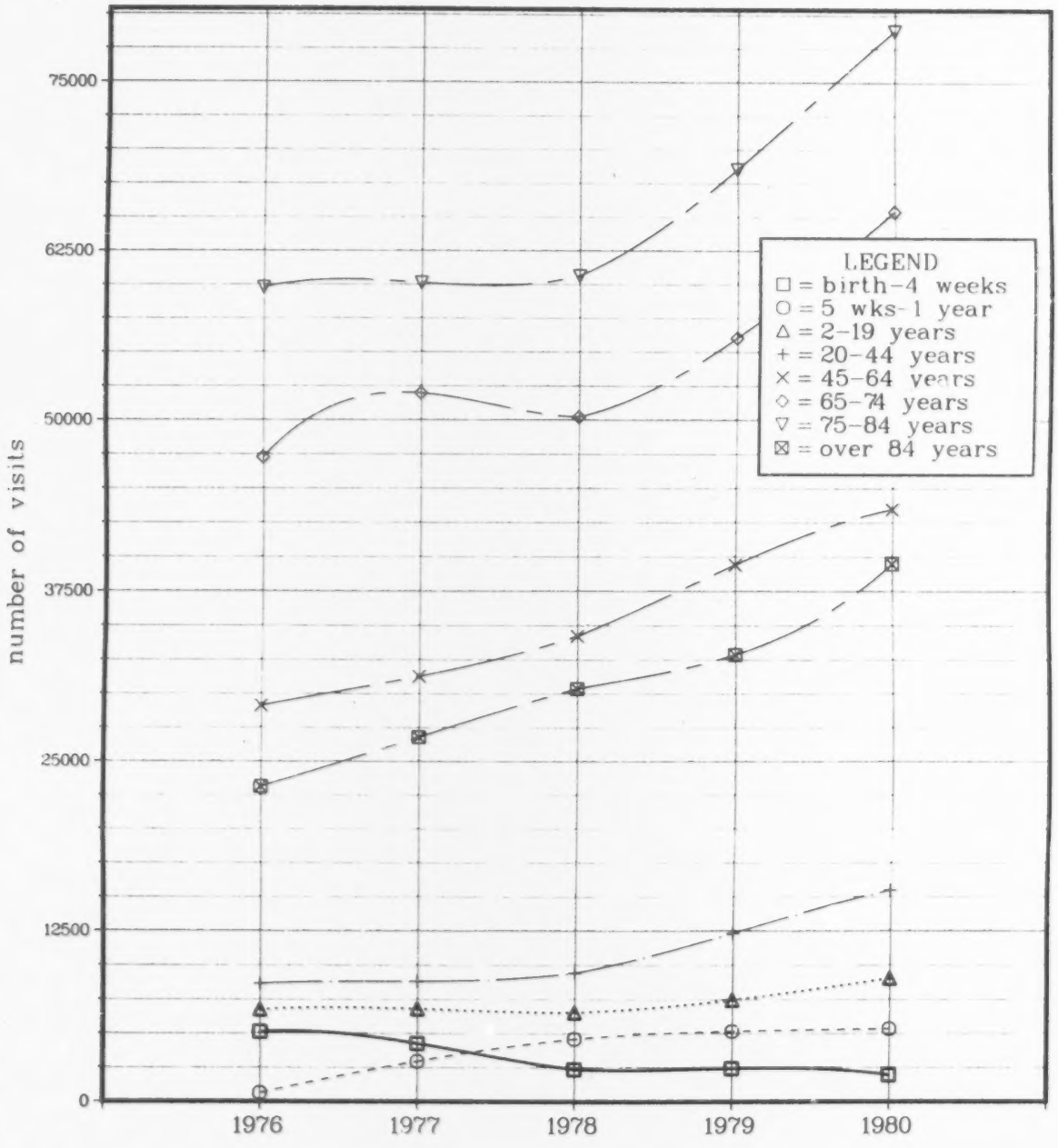
The remaining five age groups (2-19, 20-44, 45-64, 65-74, 75-84, over 84) experienced increases in the number of home health care visits for the 1976 to 1980 period. The overall increase in the number of home health care visits may be due, in part, to the increased availablity of both governmental and third party reimbursement for these services.

TABLE 16.
HOME HEALTH CARE VISITS BY AGE: RHODE ISLAND 1976 - 1980.

| | Number of Visits by Age | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Year | Birth-4 Wks. | 5 Wks.-1 Year | 2-19 Years | 20-44 Years | 45-64 Years | 65-74 Years | 75-84 Years | Over 84 Years |
| 1976 | 5,107 | 616 | 6,732 | 8,645 | 29,100 | 47,246 | 59,769 | 23,118 |
| 1977 | 4,247 | 2,930 | 6,788 | 8,799 | 31,264 | 51,959 | 60,108 | 26,781 |
| 1978 | 2,341 | 4,563 | 6,512 | 9,401 | 34,213 | 50,210 | 60,631 | 30,348 |
| 1979 | 2,418 | 5,144 | 7,446 | 12,318 | 39,404 | 56,011 | 68,513 | 32,844 |
| 1980 | 1,931 | 5,315 | 9,012 | 15,473 | 43,456 | 65,411 | 78,827 | 39,465 |

# Home Health Care: Number of Visits by Age

## Rhode Island 1976-1980



# "HAS THE USE OF MENTAL HEALTH FACILITIES CHANGED?"

During the 20-year period from 1960 to 1980, the emphasis for diagnosing, treating, and rehabilitating people with mental health problems shifted from large state mental hospitals to community-based programs. The greatest growth in utilization stemmed from the development and use of outpatient psychiatric services and community mental health centers.

The number of inpatient mental health care admissions per 1,000 population that were provided by the various Rhode Island hospitals show a reduction of 29.6 percent for the period 1975 to 1980.

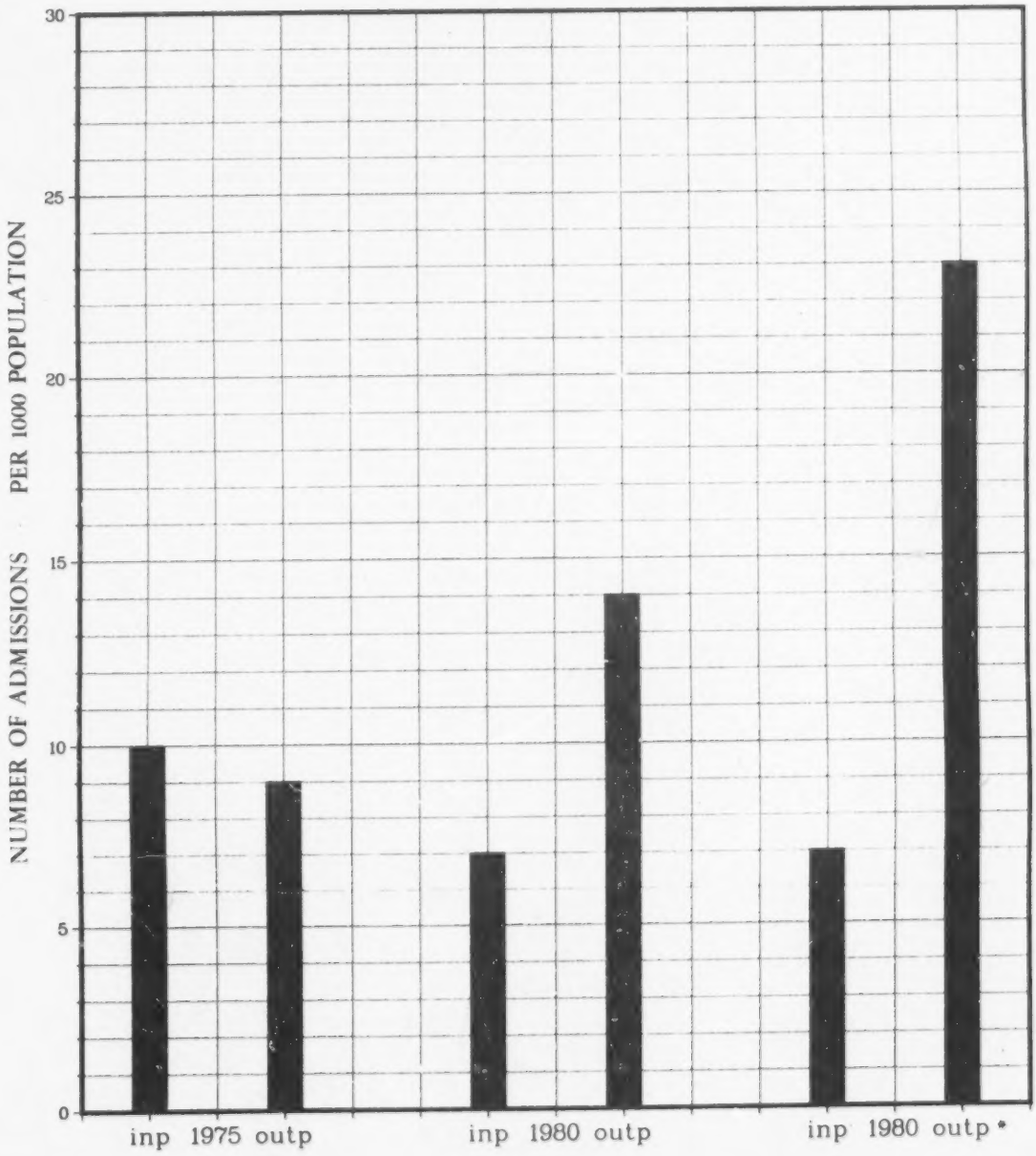
Outpatient facilities were being utilized as a substitute for inpatient hospitalization. The number of outpatient mental health care admissions per 1,000 population, provided by the various Rhode Island hospitals, rose 42.5 percent for the period 1975 to 1980. Also, the addition of community mental health center admissions per 1,000 population further increases the 1980 outpatient total; a 61 percent increase in utilization (outpatient) for the period 1975 to 1980.

TABLE 17.
INPATIENT VS. OUTPATIENT ADMISSIONS TO HOSPITALS (1975 & 1980) AND COMMUNITY MENTAL HEALTH CENTERS (1980): RHODE ISLAND.

| | Inpatient | Outpatient |
|---|---|---|
| 1975 | 9,053 | 8,097 |
| 1980 | 6,375 | 14,082 |
| 1980* | 6,375 | 21,824 |

*Includes Community Mental Health Center Data.

# INPATIENT AND OUTPATIENT MENTAL HEALTH ADMISSIONS RHODE ISLAND 1975-1980




*INCLUDES COMMUNITY MENTAL HEALTH CENTER ADMISSIONS

# "HOW DO WE SPEND OUR HEALTH DOLLARS?"

Health expenditures may be categorized by the source of the funds provided and by the type of service purchased. In 1978, $482,170,000, 57.6% of total expenditures were derived from private sources. The allocation of expenditures derived from public funds differs greatly from that derived from private funds: in 1978, 73.7% or almost three quarters of spending from public sources went for hospital and nursing home care while 40.4% of spending from private sources went for hospital care. Between 1971 and 1978, the proportion of private health expenditures devoted to nursing home care more than doubled, from 4.1% to 8.5% and the proportion of public health spending in Rhode Island for this purpose increased as well, from 9.5% to 12.7%.

The adjoining table displays the categorization of health expenditures by source and type of expenditure in 1971 and 1978. Perhaps the most striking aspect revealed is the difference in the aggregate growth rate of expenditures from public and private sources. Expenditures from public sources more than doubled, growing at an average annual rate of 14.1% between 1971 and 1978, while those from private sources grew at an average annual rate of 8.1%. It may also be noted that expenditures for professional services, drugs and sundries and construction are predominantly private; those for medical research are predominantly derived from public sources.

TABLE 18.
DISTRIBUTION OF HEALTH EXPENDITURES (IN THOUSANDS OF DOLLARS) BY SOURCE AND TYPE OF EXPENDITURE: RHODE ISLAND 1971 AND 1978.

| | 1971 | | 1978 | |
|---|---|---|---|---|
| | PUBLIC | PRIVATE | PUBLIC | PRIVATE |
| Hospital Services | 89,459 | 82,960 | 217,091 | 153,959 |
| Professional Services | 9,627 | 93,969 | 29,317 | 155,869 |
| Drugs and Sundries | 4,411 | 28,926 | 6,826 | 42,622 |
| Nursing Homes | 13,428 | 11,404 | 44,968 | 41,107 |
| Medical Research | 3,137 | 60 | 9,272 | 360 |
| Construction | 1,275 | 7,977 | 553 | 18,149 |
| All Other Services | 19,627 | 54,800 | 47,415 | 70,104 |
| Total | 140,964 | 280,096 | 355,443 | 482,170 |

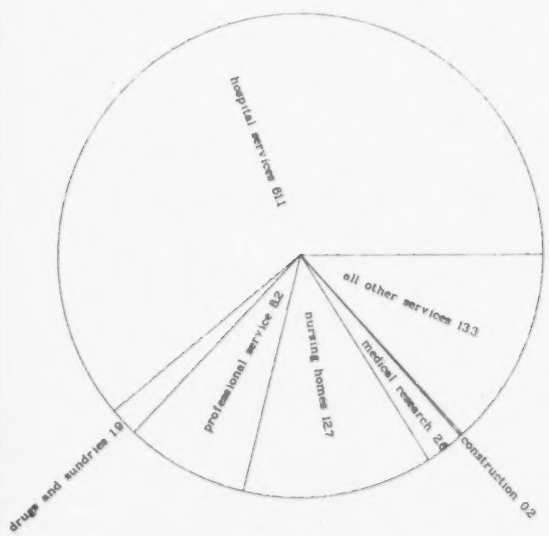
Distribution of Health Expenditures
by Source and Type of Expenditure:
1971 and 1978 - Rhode Island

1971 Public Expenditure - $141 million

Distribution of Health Expenditures
by Source and Type of Expenditure:
1971 and 1978 - Rhode Island

1971 Private Expenditure - $280 million

Distribution of Health Expenditures
by Source and Type of Expenditure:
1971 and 1978 - Rhode Island




1978 Public Expenditure - $365 million

Distribution of Health Expenditures
by Source and Type of Expenditure:
1971 and 1978 - Rhode Island

1978 Private Expenditure - $482 million

# "HOW MUCH DO WE SPEND FOR HEALTH CARE ?"

In 1978, $837,613,000 was spent for health care in Rhode Island, more than double the amount spent just seven years earlier. Of course, the prices of all things, including health care and our incomes increased during this period so that our ability to afford the higher expenditure rose. But, has our ability to afford them risen commensurately with the expenditures?

To answer this question, we need to know the percentage of our gross state producted devoted to health care. A constant percentage would imply the same proportion of our resources being devoted to health care - a similar size piece of an expanding pie. Our experience in Rhode Island, as in the nation as a whole, is, however, that not only has the real level of resources allocated to the health care sector increased, but that these resources are commanding an ever increasing share of our economy. That share has risen from 9.2% in 1972 to 11.1% in 1978.

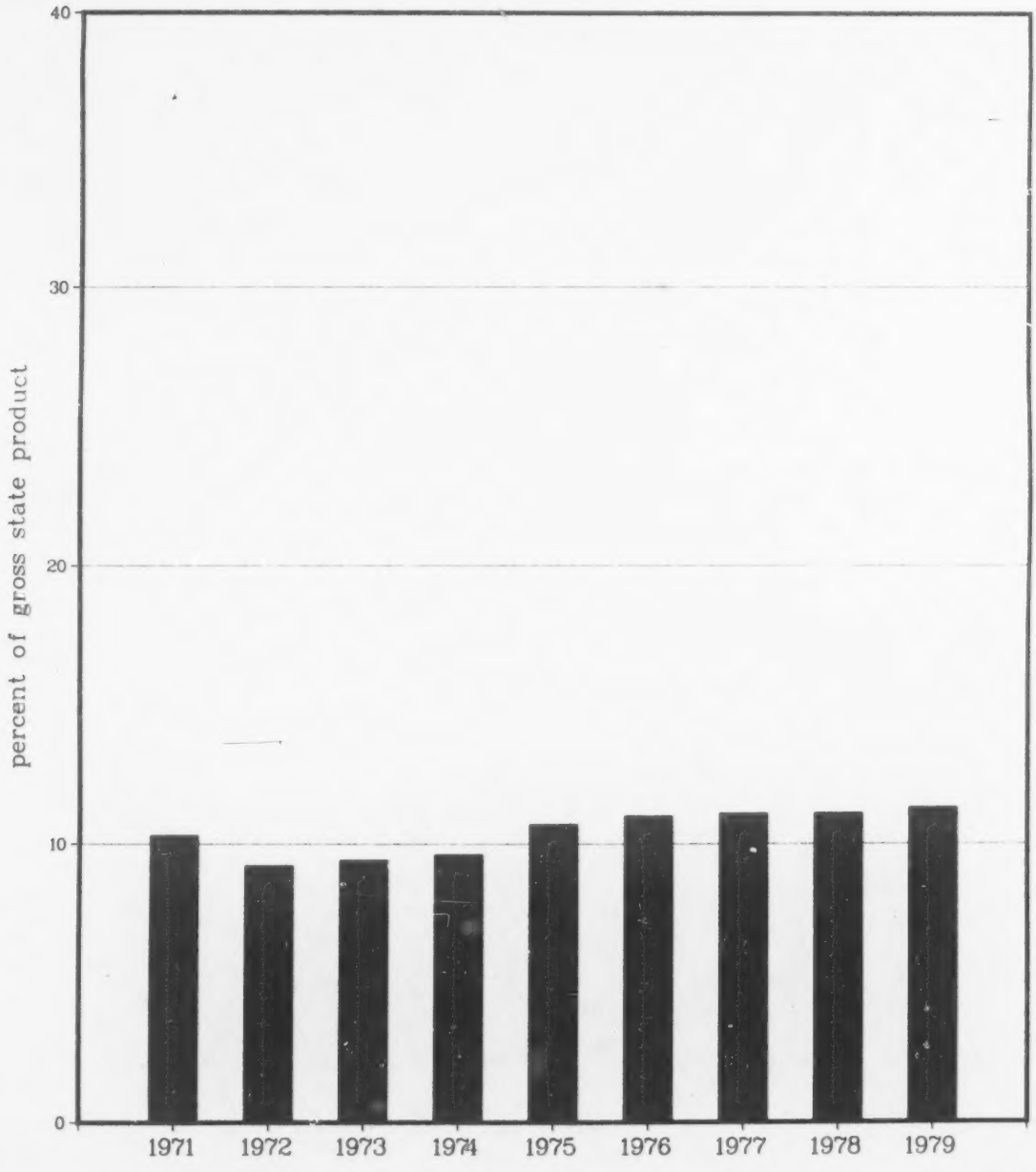
TABLE 19.
TOTAL HEALTH EXPENDITURES IN THOUSANDS OF DOLLARS AND AS A PERCENT OF GROSS STATE PRODUCT: RHODE ISLAND 1971 - 1979.

| YEAR | EXPENDITURES | PERCENT OF GROSS STATE PRODUCT |
|---|---|---|
| 1971 | 403,553 | 10.3 |
| 1972 | 439,230 | 9.2 |
| 1973 | 497,737 | 9.4 |
| 1974 | 528,911 | 9.6 |
| 1975 | 602,662 | 10.7 |
| 1976 | 682,426 | 11.0 |
| 1977 | 760,258 | 11.1 |
| 1978 | 837,613 | 11.1 |
| 1979* | 938,207 | 11.3 |

*Provisional estimate.

Percent of Gross State Product for Health Care:

Rhode Island 197i–1979



# "HOW MUCH DO WE SPEND FOR HEALTH SERVICES AND SUPPLIES ?"

Rhode Islanders spent $845.73 per capita in 1978 for health services and supplies. This is about 5% above the national average per capita health care spending. Rhode Island's higher aggregate per capita health spending is associated with a higher level of spending per capita on facility based health care than in the nation as a whole. Rhode Island's spending of $488.90 per capita for hospital and nursing home care in Rhode Island, is about 20% more than the national average of $407.63 per capita. These costly forms of health care accounted for 57.8% of spending. Services provided by physicians and dentists accounted for another $170.31 per capita. Expenditures for public health activities financed by governmental agencies amounted to $24.12 per capita, or less that 3% of the total.

TABLE 20.
PER CAPITA EXPENDITURES ON HEALTH SERVICES AND SUPPLIES:
RHODE ISLAND 1978.

| Type of Expenditure | Rhode Island | United States |
|---|---|---|
| Hospitals | 396.84 | 339.94 |
| Nursing Homes | 92.06 | 67.67 |
| Physicians | 126.47 | 160.47 |
| Dentists | 43.84 | 53.31 |
| Other Professionals | 27.75 | 18.24 |
| Drugs | 54.89 | 68.91 |
| Eyeglasses, Appliances | 17.68 | 17.68 |
| Other Health Services | 24.00 | 20.56 |
| Administration | 40.08 | 32.28 |
| Government Public Health | 24.12 | 23.68 |
| Total | 845.73 | 802.81 |

Per Capita Expenditures on
Health Services and Supplies
Rhode Island vs United States 1978

RHODE ISLAND

Per Capita Expenditures on
Health Services and Supplies
Rhode Island vs United States 1978

UNITED STATES

# "WHERE DO INCREASING HEALTH SERVICE COSTS COME FROM?"

Expenditures for health services and supplies in Rhode Island increased by 130.7% between 1971 and 1979, from 303.8 million to 885.6 million dollars. Table 15 and the diagram shown are sources of this increase. Most of the increase in expenditures was due to rising prices : 394.4 million dollars of the 501 million dollar increase in health expenditures between 1971 and 1979 may be accounted for by this factor alone. The population declined slightly during the period, implying that 3.3% less money would have had to have been spent in 1971 had the population been instead of the size it actually was in 1979. After accounting for changes in expenditures that are associated with changes in the price level and in the change in the size of population served, the remaining "residual" changes may be presumed to be due to changes in the utilization of care and changes in the quality or intensity of the care provided. This residual should approximate the change in the real amount of health care resources provided to the people of Rhode Island.

TABLE 21.
SOURCES OF INCREASE IN THE EXPENDITURE FOR HEALTH SERVICES AND SUPPLIES:
RHODE ISLAND 1971 - 1979.

| YEARS | PERCENT INCREASE | PERCENT POPULATION CHANGE* | PERCENT PRICE INCREASE** | PERCENT RESIDUAL UTILIZATION AND QUALITY CHANGE*** |
|---|---|---|---|---|
| 1971-72 | 9.2 | 1.0 | 3.2 | 4.8 |
| 1972-73 | 11.5 | 0.0 | 3.6 | 7.6 |
| 1973-74 | 8.7 | -3.1 | 8.5 | 3.4 |
| 1974-75 | 14.6 | -0.6 | 12.9 | 2.1 |
| 1975-76 | 10.7 | 0.1 | 10.5 | 0.0 |
| 1976-77 | 10.6 | 0.1 | 7.9 | 2.4 |
| 1977-78 | 11.4 | -0.2 | 9.2 | 2.2 |
| 1978-79 | 12.1 | -0.6 | 10.0 | 2.5 |
| 1971-79**** | 130.7 | -3.3 | 87.6 | 27.2 |
| 1971-79***** | 100.0 | -3.0 | 78.6 | 24.4 |

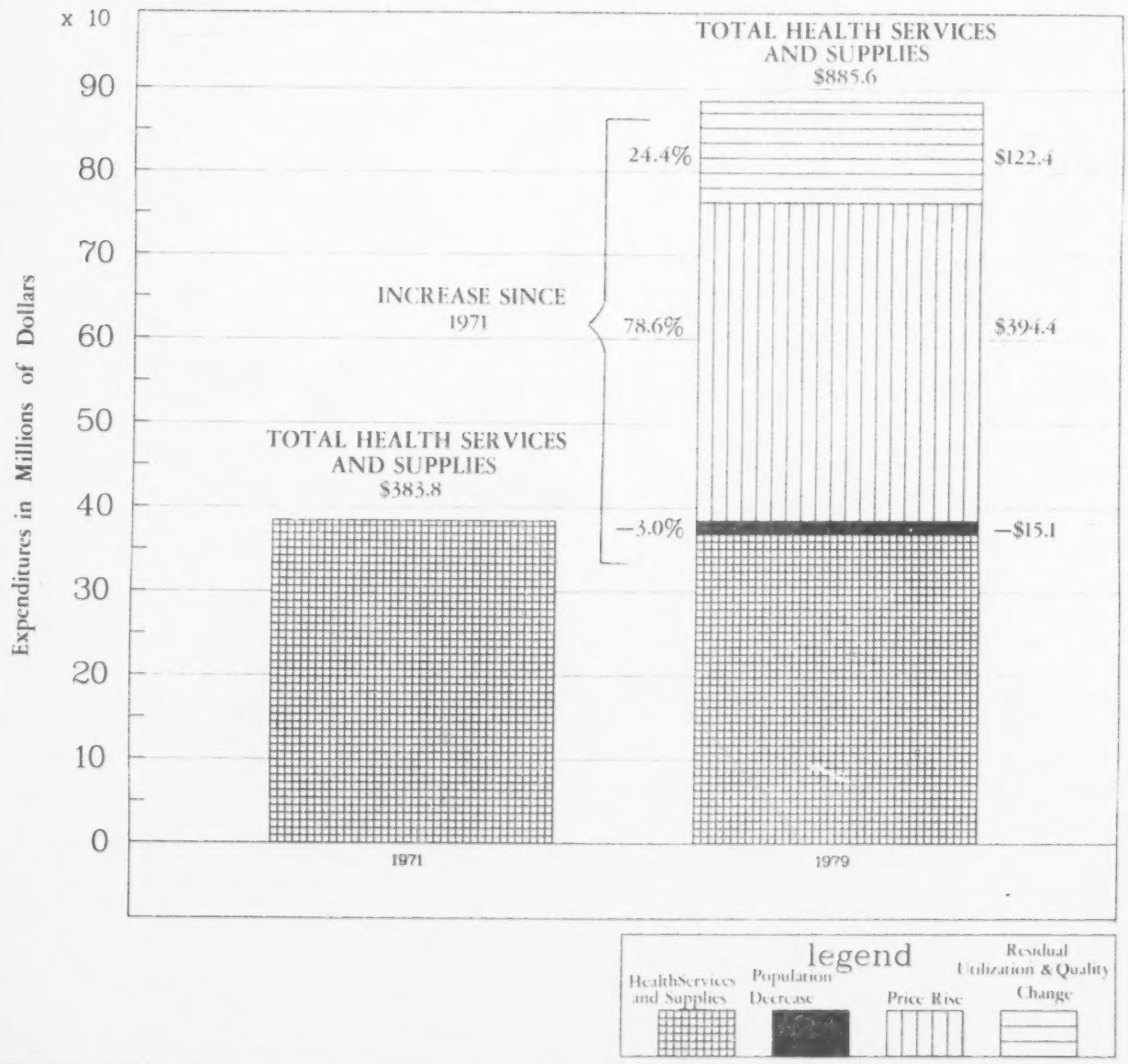
*Population change computed from the Bureau of the Census:
"Current Population Reports"

**Price Increases are computed from the Bureau of Labor Statistics
Consumer Price Indices with moving base period weights.

***Computed as a residual.
****Percent change.

*****Contribution to change.

# Sources of Increase in the Expenditure for Health Services and Supplies Rhode Island 1971–1979



# DATA SOURCES

(1.) Division of Vital Statistics, Rhode Island Department of Health (R.I.D.H.); Annual report(s) 1970 - 1980.

(2.) Rhode Island state life tables: 1969 - 1971. National Center for Health Statistics, U.S. Department of Health, Education and Welfare, June, 1975.

(3.) See Source 1.

(4.) See Source 1. (1950 -1980).

(5.) Rhode Island Health Interview Survey. Conducted by Rhode Island Health Services Research, Inc. (SEARCH) under the auspies of R.I.D.H.; 1972, 1975 and 1980.

(6.) See source 5.

(7.) See source 5.

(8.) See source 5.

(9.) See source 5.

(10.) See source 5.

(11.) See source 5.

(12.) Annual Physician re-licensure survey. Conducted jointly by R.I.D.H. and the Rhode Island Medical Society, with the assistance of the Division of Professional Regulation, R.I.D.H.; 1980.

(13.) See source 5.

(14.) Professional Activity Study (PAS); as compiled by SEARCH: 1974, 1976, 1979.

(15.) See source 14.

16.Data for seat belts- See source 5: data for child restraints from Division of Family Health, R.I.D.H.

(17.) Data for hospitals from: Hospital Utilization in Rhode Island: 1975 and 1980. Data for community mental health centers from : Rhode Island Center Census Report: 1980.

(18.) Health Expenditures in Rhode Island: 1977 and 1980. As jointly compiled by SEARCH and R.I.D.H. in SEARCH reports, no. 24; October, 1981.

(19.) See source 18.

(20.) See source 18.

(21.) See source 18.

# About This Document

Because this document represents a new level of technical sophistication in information processing, it deserves a bit of explanation regarding the rather unique methods used to produce it.

The original text for RHODE ISLAND'S HEALTH 1981 was composed on a TRS-80 microcomputer, utilizing the SCRIPSIT word processing programs to produce a final edited copy. This text was then entered via computer terminal to the IBM 370/158 interactive processor at Brown University, utilizing the Waterloo SCRIPT text processing program to format multicolunm text and cleanly formatted tables. Then these files were recorded on magnetic tape and typeset by computer utilizing a Merganthaler Linotron 202 typesetter. This typesetter produced camera-ready copy suitable for offset plate production. The offset plates were then produced and run off by the Health Department's print shop.

The graphics are also all products of advanced computer technology. All but one (number 12, the map) were produced by utilizing a software package called EZ-GRAF (a proprietary product of AVCO Corporation) on a Information International FR80 graphics recorder. This device produces graphics of extremely high resolution which are camera-ready for offset plate production. The map of physician distribution was produced using Calcomp plotting routines as modified by Roger Greenall of the U.R.I. Academic Computer Center's User Services group. This 4 color map was then reproduced by color Xerography for inclusion in this document.

For further information about any of these techniques or about the content material of Rhode Island's Health 1981, please call Peter Potthoff at the Office of Data Evaluation, Rhode Island Department of Health; (401) 277-2550.